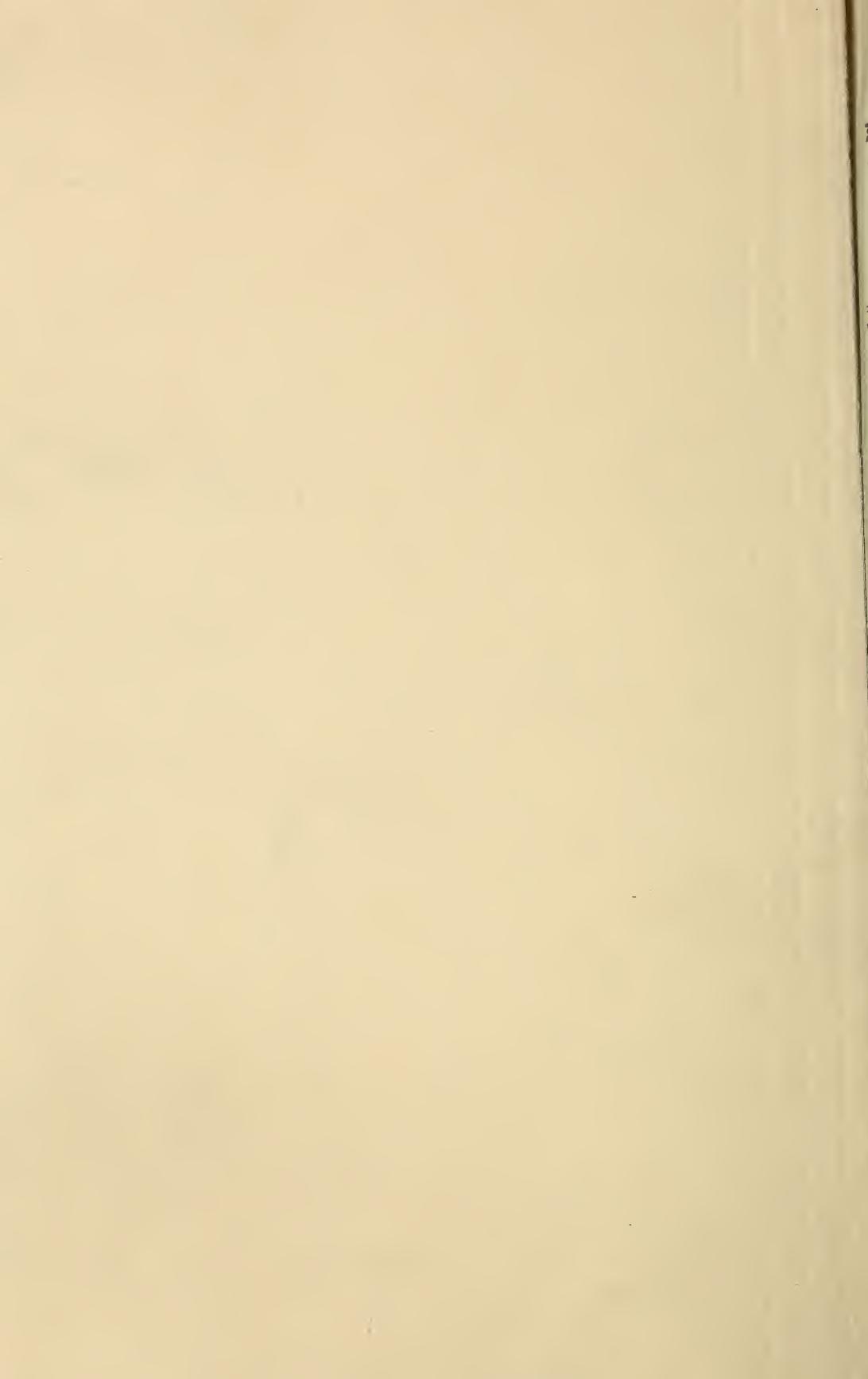


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1.21 #12



Vol. XXI.

JUNE 15, 1893.

No. 12.

STRAY STRAWS

FROM DR. C. C. MILLER.

SMOKERS seem to be the burning question now.

THAT COMB-LEVELER of B. Taylor. I've tried it, and it's splendid—a real acquisition.

ANOTHER FACTOR in the sealed-cover business that ought to be reported is the amount of lower ventilation.

THE BEST THING in the bee-corner at the World's Fair was to see how glad each bee-man was to help the other.

RAMBLE No. 85 is capital—gets right down to solid bee-talk, and puts in more than the usual number of healthy laughs.

HONEY-COMB, in the Bible, always means what we call comb honey. Isn't it used the same way nowadays in England?

LOOK OUT, Bro. Root, what you say about patent-medicine ad's, or you'll offend some of the religious papers. Such ads pay.

WOODCHOPPER, you let my queens alone. If "some smart young rambler" comes fooling around, better tell him my shot-gun is loaded.

LAYING WORKERS, according to Abbe Martin, in *L'Apiculteur*, can be produced only by a partial operation of the laws that produce a queen; that is, they must be specially fed while in the larval state.

FRIEND Root, that talk on page 439 is first-class—A1, all but one thing. Never wait to be "in a fit frame of mind to apologize." Blurt out an apology the minute you see, you're wrong, and let the "frame" take care of itself.

INTRODUCING QUEENS. A plan given in *Revue* is, to thoroughly dust with flour all the bees after shaking them into a box, then dump them down in front of the hive, and, as they enter, add the queen and her companions, also floured.

MRS. ATCHLEY says birds almost never destroy queens flying from hives standing alone, neither do they when the hives stand together; but in the latter case the queens enter the wrong hive on return from their wedding-flight.

I'VE COME DOWN off the compression theory, but I'll get back long enough for a dab at Woodchopper (p. 433). Queen goes off in the corner because she can't find cells enough elsewhere; and the will of the workers, not the queen, has decided in advance that there should be drone-cells ready for her there. See?

OVERSTOCKING is a word that is not translatable in the French bee-journals; but the English

word is transferred bodily into their language. To balance the account, can we not adopt their word *souche*, which means the mother colony, or the one from which a swarm has issued?

LITTLE BLACK ANTS, about $\frac{1}{16}$ of an inch long, says E. S. Lovesy, in *A. B. J.*, are the bane of bee-keeping in Utah. They are everywhere by the million, destroying eight colonies for him last season, some of them strong colonies, besides weakening others. I think I'll not move to Utah.

JOHN McARTHUR feels sure he has known workers to change worker eggs to drone eggs. Worker brood has been given to a queenless colony having no drones. Has any one else made any such observation, or is he mistaken? Very positive proof would be needed to establish such a belief.

IN FRANCE, as well as here, the spring has been unusual. *L'Apiculteur* reports that no such spring has been known for 13 years. But, unlike here, the spring has been remarkably favorable there. Natural swarms issued in April, one as early as the 5th, and honey has been stored from fruit-bloom.

ABBE MARTIN says, in *Apiculteur*, that no worker can be changed to a laying worker after it is sealed up in its cell—it is made a laying worker by special feeding during its larval existence. If this be true, it agrees with my view that laying workers do not appear till all worker brood is hatched. But I'm not sure of my ground.

"HOLDING TOO LONG to one set of ideas" (p. 420) is hardly the way to put it. Never ride exclusively a single hobby, neither longer nor shorter, unless you want to kill both horse and rider. If A. I. Root at the start had kept a change of hobbies, his principal hobby would still be in vigorous health, to the great advantage of bee-keeping.

LANGDON'S ARRANGEMENT, whether it succeeds in all cases or not, is an effort in the right direction. Prevention of increase, prevention of swarming, automatic hiving, none of them are so desirable as a plan of working straight along for comb honey without any desire to swarm. Whatever the "proof of the pudding" on eating, the outside of the bag has certainly a promising look.

TRANSFERRING, according to H. F. Coleman, in *A. B. J.*, should be done at beginning of clover-bloom rather than in fruit-bloom, there being less honey then, more bees to straighten up matters, and the loss of brood at this later period is not so serious, as it will be somewhat late for the clover crop. "Transfer in fruit bloom" is time-honored advice, but there seems sense in Mr. C.'s position.

A NEW THING under the sun is reported in the French *Revue*. M. Gubler found wax stored in cells; and samples submitted to the learned Dr. de Planta were pronounced by him, upon careful analysis, to be genuine beeswax, bearing clear evidence of having been stored in the cells by the bees. An unusually abundant harvest is supposed to have something to do with the case.

THE SMOKER QUESTION doesn't greatly interest me. For years I've been insisting that what we wanted was something like the Clark, that would let the whole force of the bellows go without loss through the nozzle, but have a valve to keep smoke out of the bellows. Theoretically, the Crane smoker fills the bill, and in actual practice it is all my "fancy painted it." If it works as well a year from now, we don't need a better smoker than the Crane.

"I FULLY BELIEVE that the brightest journal, the one filled with the freshest and most practical ideas, the one with a 'touch of nature' upon its pages, can be made amid the hum of bees and buzz-saws." Those are the closing words of an editorial in *Review*. As the *Review* is one of the journals that might plume itself on its freedom from the supply-trade, the words quoted show that Hutchinson is either a fool or the essence of unfairness. I take the latter view.

HONEY FROM BASSWOOD.

DOOLITTLE TELLS WHEN IT WILL AND WILL NOT PAY TO MOVE BEES TO BASSWOOD FIELDS; HOW WE MAY KNOW IN ADVANCE WHETHER BASSWOODS WILL YIELD HONEY.

A correspondent wishes me to answer the following questions through GLEANINGS:

1. I am thinking of moving my bees this summer a few miles to where there is an abundance of basswood, hoping to secure a greater yield of honey than I at present receive, as I have no basswood near me. What do you think of the idea? 2. Are not the blossom-buds formed on basswood-trees a few weeks previous to the time of their opening, so that I can know by this whether there is a prospect for honey from that source in time to make preparations for moving? 3. Are there any seasons when basswood blooms in profusion, when there is no yield from it?

In answering the first question I would say that the plan is a good one, and I can see nothing against it, except the expense. I believe basswood to be the greatest honey-producer in the world, as reports of 10, 15, 20, and even a higher number of pounds have been reported from this source during a series of days, while, if I mistake not, no such yields have been reported for any length of time from any other honey-producing plant or tree, although there may have been reports of 20 lbs. from other sources for a single day. If the questioner can move his bees to the basswood, and return them at an expense of \$1.00 per colony, it will be seen that 10 lbs. of honey from each colony will pay the cost, counting honey at a reasonable figure, if they should get that surplus. By going back over my account with the bees for nearly twenty years, I find that my yield from this source has been not far from 50 lbs. per colony on an average. Now, if we call 50 lbs. what we can expect one year with another from basswood, and if it costs 10 lbs. of that for moving the bees to the basswood, we shall have 40 lbs. left for profit; or, calling the honey at 10 cents per pound, as above, it would give us

\$4 per colony as clear money on each colony over what we should have had if we had not moved them. So if 100 colonies are moved, we have \$400 free of all expense for our undertaking.

In answering the second question, I will say that the fruit-buds and leaflets of all trees with which I am familiar are formed in June and July of the preceding year; so the result of the next season's honey-yield, so far as buds and flowers are concerned, is assured nearly or quite a year previous to their expanding. After being formed they remain dormant till the warmth of the next spring brings this dormant life into growth. As soon as the buds unfold, the latter part of May, then we can see and know whether to make preparations for moving the bees or not. By examining closely, as soon as the buds unfold so that we can see the miniature leaves, we can find the bunch of basswood buds at the base of each tiny leaf, curled up and looking very much like a very small fuzzy caterpillar. With each week this bunch of buds grows, till at the end of about seven weeks from the time the trees put on their green in the spring, they open their flowers, filled with nectar to invite the bees to a sumptuous feast. Of course, a cool season will retard the time of their blossoming a little, and a hot season advance it; but the above is the rule. Thus the practiced eye can tell nearly two months in advance, as to the promise of the yield of basswood honey. Providence giving favorable weather while it is in bloom.

In replying to the third question, I will say that I never knew a season when the basswood did not furnish some honey. The shortest yield that I ever knew gave a three-days' yield, in which honey was so plentiful that the bees could not prepare room fast enough to store it, with a gradual tapering off of two days more, making five days in all. The longest gave a yield of 25 days, with 3 of them so cold that the bees could work only a little in the middle of the day. The state of the atmosphere has much to do with the secretion of honey in the basswood flowers. The most unfavorable weather is a cold, rainy, cloudy spell, with the wind in the northwest. If basswood came at a time of year when we were liable to have much such weather, there might be such a thing as an entire failure of honey from it. But as a rule we have very little such weather at this time of the year. The condition most favorable to a large yield is when the weather is very warm and the air filled with electricity. At times when showers pass all around, with sharp lightning and heavy thunder, the honey will almost drop from the blossoms; and even when showers are present nearly every day, I have known bees to do well. At these times of greatest yield I have seen honey in the blossoms after they had fallen off on the ground, so that it sparkled in the morning sunshine. Then this nectar is nearly the consistency of honey, and not sweetened water, as in clover, teasel, etc., which makes basswood doubly valuable over most other honey-secreting plants and trees. One bee-load of nectar from the basswood, in a dry warm time, is equal to three from white clover, or five from the teasel and some of the other honey-producing flowers. I have taken two or three stems of blossoms, when the yield was great, and jarred them over the palm of the hand when I could turn two or three drops of nice honey out of my hand. All of these facts point toward a success in moving to a basswood forest, above what it would be to try to do the same where other blossoms were to be the source of honey-yield.

G. M. DOOLITTLE.

Borodino, N. Y.

[In the above, friend Doolittle has surely presented something of value to every bee-keeper in the region of basswoods. We have just been looking over our trees, and find the little blossoms which Mr. D. speaks of. They are not nearly so plentiful as a year ago; but it will be remembered that, at that time, we had an unusually heavy flow from basswoods. It is seldom if ever that two heavy basswood seasons come in succession; and this is true of all sorts of fruit-trees. A tree that yields heavily one season is not so liable to do as well the next season. Nature seems to have exhausted herself in the effort. We think that, if our readers will take pains to read the above article through carefully, it will save them perhaps a good deal of unnecessary expense in bringing bees to a basswood region when there will be no honey worth going to get. But, as a general thing, if basswoods grow in profusion in any one locality it will pay to place a certain number of colonies within their reach.]

ARE HYBRID AND BLACK BEES WORTH IMPROVING?

WHAT J. A. GREEN THINKS.

I was greatly surprised to see, in the answers to Query 867, how many there were who said, in effect as well as in words. "Let well enough alone." I should have little fault to find with those who take the drift of the inquiry to be whether or not the bees have degenerated, or are likely to degenerate or "run out," through close in-breeding. Although in-and-in breeding often produces bad effects with other animals, I do not think it probable that bees under ordinary circumstances will breed so closely within a certain strain that deterioration will result. Nature has guarded against this by providing that the mating of the queen shall take place in the air, at a distance from the hive. I think it is an entirely unwarranted assumption, that the bees in question have re-queened themselves for years from their own progeny. All of the queens might have been reared by the bees themselves, but the drones with which they mated may have come from several miles away. It is for this reason that I should not apprehend any degeneracy from in-and-in breeding. Still, it is often the case with bees, as with other animals, that an infusion of new blood gives renewed vigor. This is especially the case when different varieties are crossed.

What I especially deplore in these answers is the advice to "let well enough alone." Where would the world be if men had been satisfied to work on this principle? There is scarcely an animal or plant that man makes use of for his pleasure or profit that has not been greatly improved by breeding or selection. Within the memory of the present generation, careful selection, and crossing and breeding, have greatly improved our domestic animals, and added millions of dollars to our national wealth.

The long, lean, slab-sided, razor-backed hog of a few years ago was considered good enough by its owner; but the modern hog is a far more valuable and profitable animal. See how the cow has been improved as a producer of butter and milk as well as of beef. Witness how the standard of horses has been raised, both for speed and draft. The same improvement may be noticed all along the line of our domestic animals, to say nothing of fruits, grains, and vegetables. Are we to conclude that any mongrel breed of bees is "good enough"?

It would seem, from the language of the questioner, that he has paid little or no attention to

the breeding of his bees. It is a fair inference that he has had no bees of improved strains with which to compare them. How, then, is he to know that his bees are as good, comparatively speaking, as he believes they are? He says they are healthy, prolific, and good workers. This might truthfully be said of almost any lot of bees; but a trial of them in comparison with the best-bred strains might show that, as compared with these, they were very inferior.

"Every crow thinks its own crowling whitest;" and the owner of live stock of any kind, even if it is only a yellow dog, is very apt to consider it about as good as there is. The men who are wedded to such ideas as that must expect to be left behind in the march of progress.

The bee-keeper has the advantage over the breeder of stock of almost any other kind, in that he may make a comparative test for himself of the different varieties, at only a trifling cost. If the breeder of horses or cattle should wish to make a complete change in the breed of his stock he must go to a great deal of expense in disposing of every animal and getting others in their place. If he adopts the usual plan of "grading up" he must still go to considerable expense for pure-bred sires.

The bee-keeper can make a complete change in his stock at comparatively small expense, and have every bee of the new variety within less than three months. With a money outlay that is really insignificant he can have all of his bees reared from superior stock, and having nearly all the good qualities of the improved race. For two or three dollars, or less, he may test improved varieties for himself alongside of his old ones. In this way he may gain knowledge from practical experience, which is always the best of teachers.

The best way for the inquirer to do would be to procure from some reliable breeder one of his best breeding queens, and rear queens from this. It is almost certain that this stock would be an improvement on what he has, so he would probably be safe in rearing from them enough queens to supply his whole apiary. Unless he is certain that his breeding stock is desirable in every way, it might be safer for him to buy two or three queens of each of several breeders, and, after a thorough test, get a good breeding queen of the stock that suited him best.

If he can afford the money better than the time required to rear the queens, let him get from reliable breeders several dozen queens, which, at the proper season, may be procured at very low rates. Then let him rear all queens from selected colonies, or, if he prefers to let the bees rear their own, keep drone-traps on all undesirable colonies, which will somewhat reduce the chances of impure mating. To keep an apiary pure when there are other races within bee-flight, requires a constant struggle; but the bees of almost any apiary may be very much improved by a very little trouble in the way of selection and rejection.

As to race, there is really but little question. The Italians have fairly won the right to be considered the best variety of bees cultivated. Although a few good bee-keepers think very highly of the Carniolans, all the other races that have been introduced, some of them with much blowing of trumpets and highly imaginative recommendations, have proven undesirable, and have been discarded. In this connection, it is observed that the so-called "Golden Carniolans" are not Carniolans at all.

The beginner is specially warned against spending his money for any novelties in bees unless he wishes to test them in comparison with what are recognized as the best, and can afford to spend money for that purpose.

The Punic-bee fiasco should be a sufficient

warning to go slow in this direction. It might be a great misfortune to bee-keepers at large to have an inferior race of bees scattered broadcast over the country, especially if they were put into the hands of those who know nothing of better races, or who would become disgusted with the unsuccessful experiment of improvement, and make no effort to repair its evil effects. In selecting that which all recognize as good, there is but little opportunity to go astray. To replace or cross the bees in question with Italians could hardly fail to improve them, and the advantages would be great as compared with the cost.

J. A. GREEN.

Ottawa, Ill.

—*American Bee Journal.*

THE LANGDON NON-SWARMER.

QUESTIONS ANSWERED.

There are a few questions about my non-swarm which I have been requested to answer through GLEANINGS. One is in regard to there being a loss of unsealed brood in the closed hive when the field force is all turned into the other hive. As my experiments have been made in my house apiary I can not prove that there will not be, except by what I am able to judge by comparison.

I was surprised at the large number of bees that remained in the closed hive, even to the end of the week; and to the best of my judgment there will be no loss unless it is where the nights are cooler than we have here at that time of the year.

But for argument's sake, let it be admitted that there is a loss of unsealed brood. Is it a damage? I say no, decidedly not; for why would it be any worse than caging or removing the queen for two weeks during the fore part of the honey season, as scores of our best apiarists do? They claim it to be an advantage, and prove it, too, by their honey crops, as I did before bringing the non-swarm to perfection. The bees that hatch from eggs laid at that time do not become field bees until basswood is over, so the object in view is to get the swarm into the best possible condition for the opening of the season, and make the most of the force then flying and about to hatch—the condition of the brood during the next month being a secondary consideration so far as dollars and cents and the welfare of the colony are concerned. There is no danger of suffocation, as the exit-hole in the end of the hive may be made as large as $1\frac{1}{8}$ inches if thought best.

As for queens being killed, I did not meet with the loss of more than is often the case at other times from unknown causes. One writer said in GLEANINGS, some time ago, that the best and quickest way to introduce a queen was to take her on a comb of bees and brood from her own hive, and put the whole into the center of the brood-nest of the unqueened hive at the time the other queen was taken away, and the behavior of the bees run in by the non-swarm seems to be the same as though they were at home.

The non-swarm can be used on the Heddon hive, or any other closed-end frame or portico hive, by tacking on a small rim the width of the hive-front to the rear face of the non-swarm, so as to set it off from the hive a bee-space. In this way no exit-hole is needed in the hive-end.

The ages of the queens must be kept track of, and the old ones replaced before they begin to fail from old age; as it is self-evident that the bees can not attend to it when the non-swarm is in place. This will give the ad-

vantage to the man who attends to his bees; for one who does not, can not use the non-swarm.

H. P. LANGDON.

East Constable, N. Y., June 2.

DESCRIPTION OF MRS. JENNIE ATCHLEY'S APIARY.

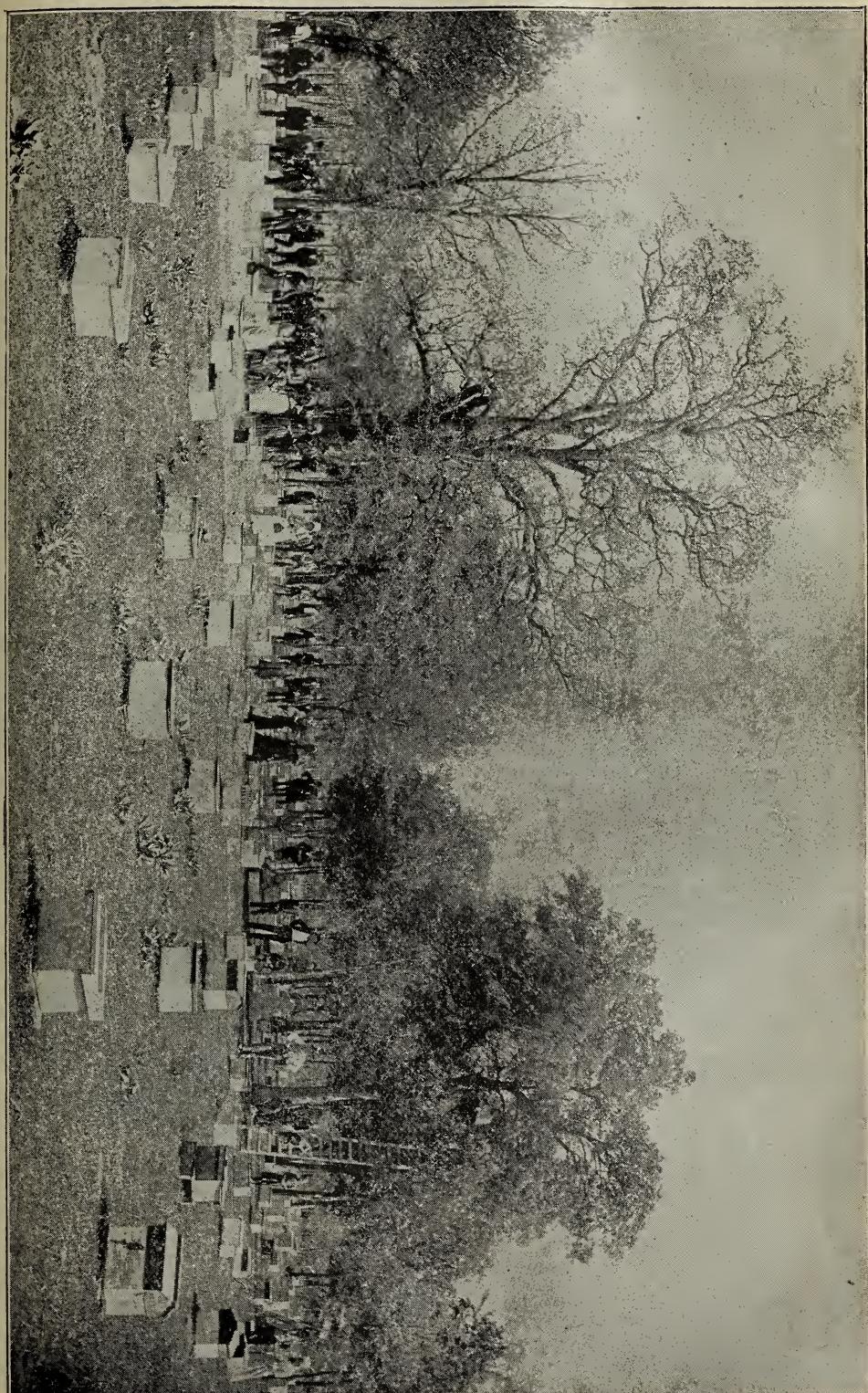
A GLIMPSE OF THAT AND OF SOME FRIENDS IN TEXAS.

This apiary is situated just inside of the corporate limits of the city of Greenville, just about one mile north of the court-house. It is in a natural grove of post-oaks and elms, and has a gradual incline to the south. It contains about 400 full colonies of bees, all in 8 and 10 frame Simplicity hives, except a few hives in front of the people, which are the crosswise Simplicity, bought of a neighbor. The larger part of the apiary is cut off from view by the crowd of people, and extends some distance in the rear, and, in fact, now almost covers a ten-acre grove. The scattering hives in front are our cell-building hives, while just about thirty yards north is our residence, with our fine breeders in the front yard, consisting of 30 hives in the photo.

That end of the apiary where you see the ladder, and the man holding the swarming-basket, is where we keep our select tested queens; and the day before the photo was taken, a swarm of bees was taken down from the elm-tree where the ladder stands. At the other end of the apiary, away back in the distance, is where we keep our nuclei and small hives, with queens ready to go at a moment's notice; and when I get time I will tell you in GLEANINGS how I keep and preserve queens ready for immediate orders. Under the tall twin post-oaks near the center is a large work-bench where we do all kinds of wood work, nailing hives, painting, preparing nucleus hives for shipment, etc.

The lady standing at the foot of the tree where the ladder is, is Mrs. Ellen Atchley, of Arlington, Tex. She has her little girl-baby in her arms. The boy up in the tree is Walter Puthuff, one of the helpers in the yard. The first person to the left of the tree is Charley Atchley, 14 years old, and he is the one who works at that bench, and makes all the nucleus hives and shipping-boxes. The next person I will call your attention to is master Napoleon N. Atchley, nine years old, who, with one of A. I. Root's Daisy wheelbarrows (by the way, the handiest tool in the apiary), does nearly all the freighting, as he calls it, in this large apiary. It would surprise you to tell you that this little boy can carry 200 lbs. on his wheelbarrow. You may catch a glimpse of him sitting on a beehive, with his feet crossed. Next we will skip three persons, and my husband stands just behind the lady sitting down with her baby in front of her. He is in bad health, and can not do hard work, but helps to keep up the correspondence, and helps about the house. The next one to him, and standing between the two hives with "Bee-hive" written on them, is Willie Atchley, who does all the cell-grafting, and raises nearly all the queens in the yards, and is said to be the best-posted boy of his age (16) on bee culture in the South, and the best queen-raiser in the world, of his age. He has been raised in the queen-yards, and never has had the chance to attend school ten days in his life, but is scholar enough to attend to most kinds of business nevertheless.

Next we will skip up to the twin trees, and there, just to the left, stands your humble ser-



MISS JENNIE ATCHLEY'S APIARY, GREENVILLE, TEXAS.

vant. Mrs. Jennie Atchley, with a white apron on, and holding to the hand of the baby-girl Rosa. Just behind little Rosa stands Amanda. She is now 19 years old, and runs her own queen-yard; and last, but not least, comes Miss Leah, six years old. She stands just in front of sister Amanda, and just behind little Rosa. She has now ten hives in the front yard that she runs her own way; and it may take you by surprise to tell you that she raises queens, grafts cells, cages queens, or does any other light work in the yards, and can go and cage any certain queen in the yard if you will only tell her the number of the hive she is in.

This completes the family, except little Ives, who is two years old, and stands between me and little Rosa, but is hid from view. He is already learning bees faster than any of the others, simply because there are more to teach him, and he is quick to "catch on." We also have out-yards scattered in the country.

Greenville, Tex. MRS. JENNIE ATCHLEY.

[The following we clip from the Greenville *Headlight*, of May 20, 1893:]

Mrs. Jennie Atchley's apiary of this city is doing the largest bee business now that we have ever known, done in the South. They have, during this spring's business, shipped out over a carload of bees. They have gone to all parts of the United States, and several shipments to foreign countries. Recently an order each from Honolulu, in Hawaii, and Ireland, were filled. Besides these shipments they have sent over 2000 Italian queen-bees by mail. Their apiary in the northern part of the city is worth visiting.

[We believe that Mrs. Atchley is not only the largest queen-breeders in the South, but, in fact, in the whole world. She has what those in the North have not—a beautiful climate—in fact, a climate wherein she can rear queens every month in the year. Of course, this means no winter problem and danger of losing nuclei as in the North. It seems that Mrs. Atchley and family do almost the entire work alone, and this reduces expenses. We regret to say that the half-tone hardly does justice to the figures. They would hardly be distinguished; and as we are not able to see Mrs. Atchley's features, we hereby request her to send us a recent photograph. We should also like a picture of that 16-year-old boy who is said to be "the best-posted on bee culture of any one in the South, of his age, and the best queen-raiser in the world." We are sure our readers would like to have a good look at both.]

RAMBLE 86.

SHEEP; HOW THE SAGES BLOSSOM; TEMPERATURE IN CALIFORNIA, ETC.

In all parts of California the fertile valleys and even the mountain-sides have rendered good pasture for sheep, and herds have roamed at will over the waste places. Along with the planting of the vine the early missionaries also introduced sheep and cattle as an aid to the conversion of the natives. While the indolent Mexican ruled the country, and the ranches were few and far between, large herds of sheep had an unlimited pasture; but with the irrigation era the valleys are becoming dotted with thriving villages, and the sheep-owner is hedged about with difficulties unknown in former times, and which are even greater than the trials of the bee-keeper, for stringent laws have been passed in this State against their crossing occupied lands, and often damages to a considerable amount are claimed and collected. The farmers are generally opposed to these marauding bands, and the bee-keeper also regards them as an unmitigated

evil and a damage to his occupation. A band of five or ten thousand sheep means so many thousand mouths to bite off the growing herbage, and four times as many thousand feet to trample down what has escaped the mouths.

Alfilerree is the first plant in February and March that gives a honey-producing flower; and though the blossom is a tiny one, bees get a good start upon it, but the foliage of alfilerree is good pasture for any kind of stock, and they thrive upon it; but a band of sheep will soon clean up a large area of it, and the bee-keeper dislikes to see the destruction go on. Besides destroying this early plant, other honey-plants with a low-growing habit are either eaten or trampled. When the sheep finds a scant supply of food from the low-growing plants, even the sages are browsed upon and injured. Though disliked by bee-keepers and others, aside from this the life of the shepherd is not an easy or a pleasant one. A good share of the shepherds are Frenchmen. In the wilder portions of the State they follow their herds, and sleep where night overtakes them, with their trained dogs with them. In the more settled portion of the country the herd is rounded up at night at headquarters, which generally consists of a small tent. With 5000 sheep around it, the air smells decidedly sheepy; add to this the terrible odors from several dead sheep, and the pleasures of shepherd life can be appreciated.

The monotonous life of a shepherd often leads to insanity. If sheep were endowed with a few qualities that would bring out the idea of self-defense, this monotony would be broken into often, and danger from this cause would be averted. Bee-keepers are not troubled in that manner. There is only one instance on record of a bachelor bee-keeper becoming insane. This man allowed a fair-eyed damsel to beam delightfully on him until the poor fellow imagined himself the sole owner and possessor of the damsel. Just then another fellow came along and married his beloved. Instead of taking it as an interposition of Providence, or looking around for a better damsel, he just went crazy over it. The aggressive nature of the bee keeps the bachelor bee-keeper in a sort of perpetual warfare, and he has enough of it without adding a domestic war also.

The bee-keeper does not care so much for the destruction of the smaller flowering plants; but when the sages come in for destruction, it touches his pocket, and there is a sort of mild warfare.

The first sage to come into blossom is that variously called black sage, button sage, and



bolled sage. Upon these buttons or bolls the little flower-tube appears, and is much like the flower-tube in the red-clover blossom. The button develops flowers from the outer edge of the button for several weeks. The bush is about five feet in height, bearing a large number of button-stalks, with several buttons to the stalk, the largest button being a little over an inch in diameter, and diminishing in size toward the tip of the stalk. A little drop of nectar can be squeezed from the little tube,

just as we can squeeze it from the tube of red clover. When the flowering season is past, the buttons turn to nearly a black hue, and cling to the bush until the next season.

The habit and appearance of the white sage is entirely different. The woody portion and the leaves is nearly white, which gives it its name. The flowering stalk makes a rapid growth of several feet in one season, and the plant throws up a dozen or more of these stalks, all the way from three to eight feet in height. Each stalk is loaded with racemes of buds, which continue to produce flowers for several weeks. The illustrations of these plants in the A B C are very good, in a general way; but the description of the white sage is not complete without giving the way in which the bee sips the nectar from the white-sage blossom. The opening in the corolla is nearly large enough for the bee to thrust its head into; but, as if jealous of its treasured sweets, the flower is provided with a long projecting lip that curls up, not unlike a letter S, and in such a manner as to close effectually the entrance. When I first saw a white sage blossom it was with much interest I speculated upon how the bee gained access to the nectar. Soon a busy worker darted in among the flowers, and, alighting upon the projecting portion of the S-shaped lip, it bent down under the weight of the bee, opening the door to its treasure-house, which the bee soon relieved of its contents. Upon the departure of the bee, the door immediately closed again, to be opened and reopened by the successive foragers. If the rainfall has been light, the white sage will not bloom so profusely; and, furthermore, the lip of the flower is stunted, and so short that the bee can not find standing-room upon it; and, after vainly striving to gain an entrance, it reluctantly seeks another flower, with well-developed flowers. The lip readily yields to the bee, and the load is secured as quickly from this flower

manded with an intensity that increases with a favorable yield. The mail, the telephone, and the telegraph are all successively used, and finally some disappointment experienced in not receiving things promptly. The home manufacturer of foundation is busy, and several in need of foundation gather around and make a midnight run. The Rambler happened in to one of these locals, and every thing moved along finely until about eleven o'clock, when one of the boys disappeared and soon returned with mysterious bottles. The town was prohibition in sentiment, with not a saloon, and the bearer of the bottles said that he was a prohibitionist; but for all that the bottle had a suspicious look to the Rambler, and he is sure that it contained "mal cerveza" (bad beer), as the Spaniards say. The Rambler clung closer to his big water-jug, and admonished the boys, as they tipped their bottles bottom upward toward the ceiling, that, if they persisted in doing so, their honey-dishes would also be found in the same position, for "mal cerveza" always turns things the wrong way.

The obtaining of a beverage of a strong nature in a prohibition town admonishes all believers in temperance principles that it is but a small step of progress to forbid the sale of beverages in one town while the surrounding towns continue its sale. The thing to do is to extend the area to the county, to the State, and to the nation. Hurrah for the temperance cause, and down with "buen vino" (good wine) and mal cerveza, and their attendant chain of evils! shouts the

RAMBLER.

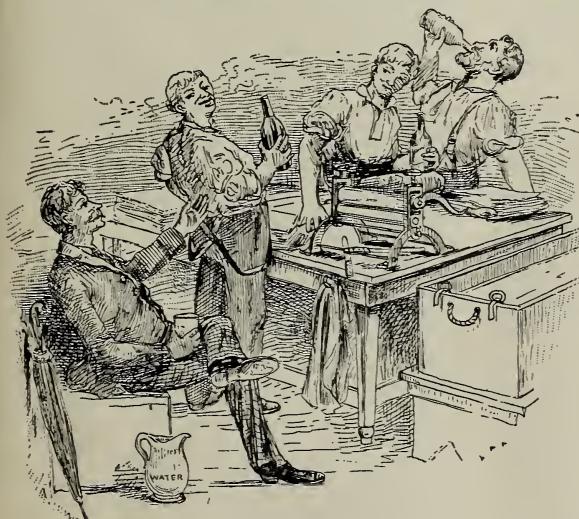
BEE-KEEPERS' EXHIBIT AT THE WORLD'S FAIR.

MORE ABOUT IT.

When you go to the World's Fair, inquire for the Agricultural Building; and, having found that, go to the southeast corner of the gallery, and you will find the bee-keepers' exhibit along the east wall, running some distance from the southeast corner. I can not tell what you will see when you go there, for things may, and undoubtedly will be, very much changed by that time. But I can tell you something about it as I saw it last, May 19.

The exposition authorities have put up a number of cases—fourteen, I think—to be filled with displays of honey. Three of these cases are shorter than the others, the lay of the land requiring it; but the general appearance is of fourteen cases just alike. The eleven larger ones, if I am not mistaken, are 25 ft. long, 4 ft. 4 in. wide, and 7 ft. high. That, you understand, is the inside measure of the glass case. At the bottom is a platform $2\frac{1}{2}$ ft. high, which, with the molding at the top, makes the total height of the structure about 12 ft.

These cases are allotted to the different States, nearly \$200 being paid for each case. New York has the distinction of having two cases, one of the larger and one of the smaller. And that's not the only thing New York has done to make the other States green with envy. It has secured a place where a number of colonies of bees will be placed along the outside wall, holes being cut through the wall to make passage for the bees, thus making a real live



MIDNIGHT RUN.

as from the simple tube of the button sage. It is when the sages are in blossom, in May and June, that the bee-keeper has to hustle in order to keep his dish right side up.

If there is a complaint from manufacturers in the East that their customers are dilatory in placing their orders, it is doubly so here; and cans, cases, sections, and foundation are de-

apiary. Still further, it is the only State, so far, that has a nice lot of white section honey. You know that last season was not the best for getting nice honey, and last year's honey is not generally expected to be improved by standing till the last of May. So it is not to be wondered at that the honey in general, what little there is of it, is not such as would always take a first premium at a county fair.

I'll tell you what those New York fellows did. Last fall they secured about 16,000 pounds of best section honey. It was kept through the winter in a room heated by steam, to about 50 degrees. It was brought to Chicago in any thing but nice cases, and a lot of empty cases were brought along, brand new, beautifully white, and packed in close boxes so as to keep them clean. The best half of the sections were sorted out for exhibition, the rest being disposed of, and these white cases with white sections piled straight up in the large showcase. In the niches left between the cases made by rounding the corners are put pound bottles of extracted honey of different colors. Although only part of one case was yet filled, there was enough of it to make it a beautiful show, and one that a bee-keeper would gaze long upon after being told that it had been kept over winter.

O. L. Hershiser is in charge of the New York exhibit, assisted by a Michigan bee-keeper, C. H. Hoyt. I couldn't find out just what amount New York had appropriated, but I think \$6000 or more will be spent on their exhibit.

Iowa's case contains a small display, all white honey, the idea probably being, as in most cases, to put in a fresh and larger exhibit of this year's crop as soon as it can be obtained. The exhibit was put in place by the veteran Kretschmer, a much younger-looking man than I expected to see. A notable feature in his case is a full-sized "Alternating" hive, made entirely of beeswax, 50 pounds of wax being used in its construction. Friend Kretschmer has also a display of hives and implements on tables.

E. Whitcomb, president of the Nebraska State Association, is in charge of the Nebraska case. This exhibit excels in fullness of varieties. It is largely of extracted, each kind being labeled, the different colors being so mixed as to make a very pretty show. Besides the honey in the case are articles manufactured from wax, and a fine collection of pressed honey-plants prepared by Prof. C. E. Bessy. The Nebraska appropriation is \$1000.

C. A. Hatch and Frank Wilcox have put the Wisconsin case in shape, with only \$300 appropriation from the State. Pound sections are made into semicircular arches, with a diameter of perhaps 4 ft. "J. J. Ochsner, Pra. du Sac, Wis." appears in large letters of comb honey, nicely designed: but the unfinished cells in a few of the letters show that last season was not a booming one in Wisconsin.

A. G. Hill has boarded up against the wall some 12 or 14 ft. high, with two elevations projecting something like counters in front, with four or five different kinds of articles well spread over the wall and counters.

Of A. I. Root's very full display I will not attempt a description, as one will probably be given in detail elsewhere.

Ontario's exhibit was on the ground, but not yet to be seen in place. Its case was filled with shelves arranged terrace fashion, but the shelves were yet empty. I saw some of the empty glass bottles or jars that are to be filled and placed on the shelves, and I suspect there will be a very fine display. For these glasses alone about \$300 has been expended, the largest costing about \$3.00 each. At some distance from the Ontario case is a sort of office and store-room, 9x15, in which matters may be stored and

the exhibitor can, if he chooses, entertain visitors. It will be entirely covered outside, I think, by a display of all kinds of implements. Some 3000 to 4000 pounds of honey have been brought from the Canadian side; and, if I understand the matter rightly, the government has not made a specific appropriation, but undertakes to foot the bills necessary to make a good show. I shall be much surprised if the show is not a fine one.

To me the most interesting part of the Ontario exhibit was Allen Pringle. Tall, spare, earnest-looking, and genial withal, you'll like to meet him and have a talk with him; and he always knows what he's talking about.

The Ohio case contained a sort of framework of gas-pipe having strung on it a lot of things that looked something like iron shoemaker's lasts, and a fat man dressed in blouse and overalls. The intention is to take out the man with blouse and overalls and put in some shelves of glass to be filled with honey. When you get near enough to see the man's face, you will have no difficulty in recognizing it as that of the jolly two-times president of the North American, Dr. Mason.

I can't tell you a thing as to what is to be in the other cases, as they were entirely empty. At the eleventh hour Illinois has an appropriation of \$3500, but I don't know what the display will be. Perhaps nothing till the bees furnish something of this year's crop.

Marengo, Ill.

C. C. MILLER.

THOSE OLD BEE-BOOKS.

ANOTHER PEEP AT THE "GOOD OLD TIMES."

The next book that claims our attention is the oldest one in the lot, and is entitled "Butler's Feminine Monarchie." It was printed in Oxford, England, in 1609—two years before the English Bible was published under the sanction of James I., and two years after Jamestown was settled. The pages are 4x6 in size, and 236 of them. The book is nicely bound in leather, and is so well preserved that it seems not to be over a year old; and yet when the binder laid it down he would have had to wait 166 years for the American Revolutionary War to begin. How one wishes it could talk, and tell us where it has been all these years! The other book, noticed in our last, was printed in 1657; and in going back to 1609 we notice a rapid decline in regularity of spelling, beauty of letters, and knowledge of the "subiect" treated. The letter j is not used, but "long s" is. The author, "CHAS: BVTLER Magd.", says, in the title-page, that his book is "A treatise concerning bees, and the dve ordering of them; wherein the truth, found out by experience and observation, discovereth the idle and fond conceipts, which many haue written anent this subiect."

The above is useful as showing that the soul of even Mr. "BVTLER" was grieved by the ignorance of those who went before him. How fortunate for Adam's standing in society that he did not write a bee-book, providing bee culture has improved from the first! A specimen of the spelling of those days is here given for the benefit of Jake Smith:

Onlie, hir, haue, lâd (land), vnles, hovve, vn-luckely, etc. The letter w is made of two v's, the letter v often standing for u, and u for v. The letter n is often omitted after a vowel, over which is placed a mark; thus, "cocealing" for "concealing." To a printer, the pages of this book present a remarkable appearance in that every line is spaced very closely; that is, the words are all very near together. This method is impossible in common print, for we divide

words at the end of a line according to syllables; but syllables are not divided. In this old work, words of all kinds were divided about as it happened. An auxiliary verb is often joined to the principal; thus, shalbe, donot, cannot, etc. The first word on each page is printed in a separate line at the foot of the preceding page. Numerous references are printed in the margin. The forms of verbs used are such as "one findeth in ye Holie Bible."

If these old books contained any thing of real value to the modern bee-keeper I would copy it and dwell less on their appearance; but the awful darkness in which those writers lived renders their works to-day of no practical benefit aside from literary curiosities. Through the mind of Butler, however, some gleams of light break forth. In giving the names of ancient writers on bees he mentions Aristomachus, Philiscus, Pliny, Aristotle, Columella, Varro, and "infinite others." But in speaking of their various works the writer says: "But in al their writings they seeme vnto me to say little out of experience, and to rely more vpon the relation of hearsay than anie certaine knowledge of their own." But when their experience tallies with his, he has frequently inserted their words, mostly in Latin, "for authority and ornament." He well observes further: "But the later writers, imitating the ancient where they thought good, choosing some of their directions and refusing others, doe, for the most part, vnluckily light upon the worse." The practical value of these old writings is happily expressed thus: "These and the like, when a scholar hath throughly read, he thinketh himself throughly instructed in these mysteries; but when he cometh abroad to put his skil in practice, every silie woman is ready to deride his learned ignorance."

"Learned ignorance!" that's good. Does any of it come from our schools and colleges?

Mr. Butler found honey to be so good for the health that he was incited to write his book out of charity; and yet he says, "I am out of doubt that this book of bees will in his infancy lie hidden in obscurity for a while."

(The possessive pronoun "its" was not sanctioned till a later period—see Bible.)

The matter of sex in bees in those days seems to have been hidden in perfect darkness; and here is where their greatest blunders were generally made. The queen was regarded as a male; but Butler's mind begins to get through the fog, and even to dispel it. Just hear him go on: "Aristotle calleth their governor *basileus* (rex, or king). As many as followed him, searching no farther than he did, were contente to say as he did. So that I am enforced (unless I will choose rather to offend in *rebus* (things) than in *vocabibus* (words) by their leaue and thine (learned reader) to straine the common signification of the word "rex," and in such places to translate it *queene*, sith [since] the males heer beare no sway at al, this being a feminine kingdom."

The first chapter of the book is devoted to a description of bees, and a very good one it is. Of course, the old blacks seem to be the only ones alluded to. In this chapter we read that bees have dim sight but good smelling; it is safer to walk among them than to stand; morning is the time to stir them; time alone can cure stings; they dislike hair, but do not care for wool. A bee-keeper must be sweet, sober, quiet, chaste, cleanly, and familiar, "so wil they lone thee."

The surroundings of an apiary, described in chapter 2, are just what would be considered good to-day.

Chapter 3 treats of hives. The process of making the old straw and wicker skeps is quite

interesting. The germ of the modern frame

consists of a piece of lath, 4 inches long and an inch wide, hollowed out as represented here. To render an old straw skep fit for use, the author goes about it thus: "If you thinke your former dressing will not make it sweet enough, then let a hogge eat 2 or 3 handfuls of mault or peas or other corn in the hieu; meane while doe you so turne the hieu that the fome or froth, which the hogge maketh in eating may go all about the hieu. And then wipe the hieu lightly with a linen cloath, and so will the Bees like this hieu better than a new."

The gravity with which the above is related, and the vision of that imperturbable "hogge," have afforded me an immense fund of laughter. And yet those Britishers are averse to American honey and pork!

It is impossible to describe here Mr. Butler's treatment of swarms and general management of bees. It is all interesting. Like most of the old bee-books it winds up with a religious talk. In this case it is an exhortation to return to the Jewish custom of paying tithes to the church. The author censures the Papists severely for having broken up the custom, and "for having robbed the people to build idle monasteries." The religious heat of 1609 was intense in England, for it was mingled largely with their political issues. In fact, this book was hardly before the public when that feeling broke into flame, and the British Isles became one vast sea of confusion, anarchy, bloodshed, murder, arson, and all horrors combined—the whole inferno rendered the more ghastly by the lurid flames from burning village and hamlet; and when peace returned, the doctrine of the "divine right of kings," either religious or political, was for ever buried by the Anglo-Saxon race, and the United States made possible.

Medina, June 9.

W. P. R.

HIVES AND THE WINTER PROBLEM.

SOME PRACTICAL AND INTERESTING OBSERVATIONS.

Since pulling bees through five months of almost incessant winter, one should learn something in regard to wintering, if there is any thing left to learn; and it just occurs to me there will always be unsolved problems in apiculture. It may be out of season to talk about wintering; but I for one am liable to forget it if I don't speak my piece "while yet in memory fresh it dwells." I prepared my bees in several different ways for winter—chaff hives, sealed-cover hives, chaff cushion on some, others with folded gunny sacks between the frames and cover, or top-board. All except chaff hives were in the cellar. I also experimented with tight bottoms, Miller's bottom-boards, no bottom-boards, and wire cloth. In regard to the chaff hives, they seemed to answer all right for winter, only that they lost too heavily in bees. In the cellar the tight-bottom hives, both with sealed cover and pads, lost greatly in numbers by mold. The sealed-cover hives all showed mold from condensed moisture. The Miller bottom-boards showed considerably less mold, either with or without cushions; in fact, they were about as good as wire cloth, if the latter were left only a bee-space below the frames, thereby holding all the dead bees in contact with the frames.

Two things I am sure at present I do not want; namely, tight bottoms and sealed covers. Taking all things into consideration, I have arrived at the conclusion that the proper method of wintering is about as follows: There should

be strong colonies in eight, nine, or ten frames, *without bottoms*, or at least wire cloth held about two or three inches below the frames by a wooden frame the size of the hive-bottom. The hives should be tiered as described in A. I. Root's circular, with a folded gunny sack between the tops of the frames and the top-board of each hive. The lower tier of hives should be two feet from the floor of the cellar, which should be dry and dark. Light, and extremes of temperature, have more to do in rendering bees restless than bushels of fruit and vegetables. They should be put away as described above by the middle of October, and allowed to remain as quiet as possible till the 1st of March, not later than the 15th, if there are some nice days so they can fly. When on the summer stands at this early date they should be protected against sudden changes of temperature by a "case" made by driving, for each hive or each group of hives—for groups I prefer the way pictured in *GLEANINGS* last fall—four 2x2 oak posts in the ground so they will, when boarded up on the outside like a house, leave a space of six or eight inches from the walls of the brood-chamber of the hive or group as the case may be. The fronts of hives should be nearer the case wall than other sides, in order to get an exit for the bees with least travel for them and least work for the apiarist or carpenter. There should be a cover that will shed rain. With packing I think this would be the best plan to obtain early breeding. Remove the packing and leave the case for protection against heat in the summer and cold in the fall. Bees will work better in hot weather, and finish better in cool, if in a protected case like the above. Though the bees are removed from the cases to the cellar, the apiary retains much the same appearance in winter as in summer.

A. B. C.

HINTS TO ADVERTISERS.

S. F. TREGO OFFERS SOME SUGGESTIONS AND CRITICISMS.

I noticed your "hint to advertisers," on p. 360, May 1. I will say that the cut in our ad. that you refer to is not my invention, but was designed by C. W. Harper, Columbus, O. The wording and displaying of an ad. is far more important than many think. You can not buy your space, scribble a few hasty lines to fill it, and expect to make big sales; for if you do you will surely be disappointed. An ad. must be carefully worded to induce the public to "shell out;" but woe to the man who makes them "shell out" and then does not live up to what he claims in his ad. He may get along for a time, but he will surely disappear from view in time.

You mention the W. T. Falconer Co.'s "A New Hive" as being a good catch-line. I consider it good; but could it not have been better if it had actually referred to some new hive? You see, as it is, the reader is deceived into reading it, in the hope of learning of some new hive. Now, suppose he is a beginner, and does not know of the high standing of the firm mentioned. My theory is, that he would think something like this: "Now, that fellow has fooled me into reading his ad.; what might he do if I send him my money?" We will suppose he turns to p. 334. The first ad. says, "What stood the test . . . for 15 years?" You can almost see that new bee-man reach for pen and paper in his haste to get that free illustrated catalogue that Hilton offers.

I think that, if I had written that ad. for the

Falconers, I would have put the words, "We made them," for the catch-line, and then in capitals put "Section-cases used in New York exhibit at World's Fair (using larger type for "World's Fair"). I think I had better let up on this firm or they may think I want to run their business; but, gentlemen, I don't. I have all I can do to run my own. I consider Nebel's "Monkey" very catchy; but they are overworking the poor fellow. Suppose I had read their ad., "Don't monkey your time away, but order your supplies early;" then a week later I want queens, and in looking over the advertisements of queens I see their "Don't monkey with cross bees," but I think it is the same old monkey "monkeying his time away," so I pass it by, as the "cross bees" is in small type. I see in the *A. B. J.* they fix it this way:

Don't Monkey with CROSS BEES.

which I think is much better.

As a general thing, if the ad. is changed every issue it will pay better. Any one who does \$50.00 worth of advertising in a year should read *Printer's Ink*, published at 10 Spruce St., New York, at \$2.00 per year (weekly). It is to the advertising profession what *GLEANINGS* is to the bee-keeping—"the top of the pile."

S. F. TREGO.

Swedona, Ill.

BEE-VEIL FOR LADIES.

HOW TO MAKE ONE.

All the year I have tried to find time to tell you how I made a bee-veil that has been a comfort to me, and perhaps others would like it. Take a piece of cheese-cloth, 60 inches long and 27 wide; sew the ends together. On one side make a two-inch hem, and make two rows of stitching, half an inch apart, to run an elastic cord through to fit a hat-crown. On the lower edge the hem need not be so wide—just sufficient to admit an elastic $\frac{1}{8}$ of an inch wide. Take a piece of fine black brussels-net veiling, 15x12, and sew it on about three or four inches from the top; cut away the cloth below. This, of course, is to look through. In some I put about the same-sized piece of a coarser quality of net in the back, to let the air pass through. The elastic ribbon for the lower hem should be 32 inches long, or long enough to fit the shoulders snugly of the person it is for. After it is run through the hem, the ends must be securely fastened. Stick a pin in the center of the lower hem in the back (after the elastic has been run through and drawn up), and on each side, about four inches from the pin, sew on a piece of elastic, eight inches long, or long enough to reach under the arm and fasten on a button in front. I sew a piece of muslin on the ends, in which to make the button-holes. The buttons should be near the arms in front. I make mine to fit comfortably, yet tight enough so that no bee can crawl under; for I don't want to be in a cage with a bee, even if I do think lots of them.

One great comfort with this veil is, that one can easily run the handkerchief under the elastic, to mop the brow—a thing I have to do pretty often when working with bees. When I know they can not crawl down my neck, nor strike me in the face, I feel pretty safe while working with them. I fasten my sleeves closely around my wrists, and never fear their stinging my hands, yet they sometimes do; but I can't work with gloves on.

London, O., May 6. MRS. VINNIE PHIFER.

JAKE SMITH'S LETTERS.

TRUBLE INTO THE MEETIN HOUSE.



MA. I. Gleenges—dear Sir:—You know I was a tellin you how Missus Bleeker was a sayin, "It's too bad, too bad," and then Missus Welder started for Joe Parks. Sez Missus Welder to Missus Parks, sez she, "I was jist a goin by, and I thought Ide drop in and see if you wood let me hev your reseat for making pickels. You do make the most charmin pickels." And she praised sum more of Missus Parks cookin, for Missus Parks is a champain cook, and no mistake.

Then she sed to Missus Parks, sez she, "Missus Bleeker was a tellin me it was too bad they was so

much hard feelin about our preecher."

"Why, you doant tell me!" sez Missus Parks. "I haddent herd a word of it."

"Yes," sez Missus Welder; "and, as Missus Bleeker was a sayin, we must do what's for the best. Of coarse, it woont do to hev enny trubel into the church. We much better let the preecher go than to hev enny dissention. A divided church cant never prosper, and we must hev peas at enny price. If they is as mutch feeling as Missus Bleeker was a tockin about, it's no use a tryin to keep Mr. Bond enny longer."

The nex day Missus Parks was at the store a gittin sum sort a dry goods, and Nat Boucher was a waitin on her. Nat oans the store, and his wife is a member of the church. Sez Missus Parks to him, sez she, "Who do you spouse weal git for our noo preecher?" sez she.

"Why, I diddnt know Mr. Bond was goin to leave," sez Nat. "I thot he was well satisfide and liked the place."

"I doant know but he's satisfide enuff," sez Missus Parks, "but Missus Bleeker sez they is sitch a number dissatisfide with him, that it's no use tryin to keep things smooth enny longer, and for the sake of peas we must all give up our oan feelins. And if Missus Bleeker has turned agin him it's no use to stand out, for Missus Bleeker has always thot the world of him."

"Well, now, Ime kind a sorry," sez Nat, "for I always liked the man, for all I doant never go to meetin mutch."

"Yes," sez Missus Parks, "it's a grate pity, but enything's better than to hev trubble in the church."

Well, things kep on in that way for some time. 1 day Welder cum to me, and sez he, "Jake, what do you think of the condishen of our church?"

"It seems in pirty fair condishen," sez I. "We hed a reel good prayer-meetin last nite," sez I. Welder doant never tend prayer-meetin.

"Oh!" sez he, "I diddnt mean the condishen of the prayer-meetin, but of the church. You know that the general feeling is against Bond. Now, if youl use your influents with him I think you can get him to resine."

"I doant think Ive enny call to use my influents in that way," sez I. "And I diddnt know the general feelin was agin our preecher."

He jist soots me, and I think he soots most of the members."

"Well, now, that's where you make a mistake," sez he. "Besides yourself and a fueuthers whitch you influents, they haint a sole that wants him to stay."

"I diddnt know I was usin enny influents," sez I; "but it doant seem to me that I stand as much alone as you make out. But Ime always willin to give in to the majority, and the best way will be to take a vote and see how many do stand on my side."

"Oh, no!" sez he, "that wood never do, to draw a line and stir up strife. We must keep peas in the church. It wood never do to take a vote. If you hev the welfare of the church to hart, yule withdraw yure oppasishen, and let all go smooth."

It diddnt seem rite clear to me how I was making oppasishen, but I diddnt say nothin jist then, and we parted.

JAKE SMITH.

The end next time.

BALLOONING.

HOW ONE FEELS UP IN THE AIR, A MILE ABOVE GROUND; FROM THE PEN OF A BEE-KEEPER.

[A short time ago we received a letter from W. T. Heddon, son of James H., of Dowagiac, Mich., asking whether we should like to have an article on ballooning. We noticed on his stationery the words "Dowagiac Aëronautical Combination;" and we had also heard that Mr. Heddon, Jr., had made several successful balloon ascensions. Well, we thought our readers might like to hear how "one feels a mile up in the air," especially as it comes from the pen of a bee-keeper, and we asked him to send the article in question.

There are not many of us, we venture to say, who are able to speak from experience on such a subject.]

The history of aërostation dates back to 1782, when the brothers Montgolfier, of France, made public their new discovery. After varied and successful experiments in their laboratory, they tried a larger balloon containing 65 cubic feet of heated air, in the open air, which rose to a height of from 200 to 300 ft., and, sailing off some distance, fell upon the neighboring hills. They then made a very large and strong balloon, with which they brought their discovery before the public.

June 5, 1783, the nobility of the vicinity were invited to be present at the exhibition. After some minutes consumed in inflating, the balloon was released, which, to the vast surprise of the doubting spectators, arose to a height of 3000 ft. It then described a horizontal plane of 7200 feet, and gently settled to the ground. This for ever crowned the brothers with the glory of a most astonishing discovery.

After serious trouble in obtaining the king's permission, the first aërial voyage was made from the gardens of La Muette, near Paris, by Pilatre des Roziers and Marquis d'Arlandes, on the 21st of Oct., 1783. The balloon used was a mammoth structure, being 70 ft. high and 45 ft. in diameter, with a large car containing a fire-grate and a number of bundles of straw, which were used in kindling the fire on their trip over Paris, that they might ascend and descend at will. The voyage consumed 25 minutes; their highest altitude was 3000 ft., and the flight 6 miles from starting-point.

Although from Dec. 1, 1783, silk balloons filled with hydrogen gas were extensively used, the Montgolfier (or hot-air) balloon was preferred by many, notwithstanding the danger of its burning in mid-air, from the fire used for continuous inflation.

The longest ascent ever made was in a gas-balloon, by Green and his two friends, Monk Mason, and a gentleman named Molland. In 1836 they started from London and landed in the Duchy of Nassau, Wiberg, Germany, 1200 miles distant. The longest and highest ascent in a Montgolfier was made from Versailles the 23d of June, 1784, by Roziers and Proust. After traveling five miles they kindled the fire and arose to the height of 11,732 ft., among clouds of snow, where they remained for 8 minutes, descending to within 3000 ft., of the earth, and landing in Compeign, 40 miles away.

Blanchard, having tried the virtues of the parachute by dropping his dog from a gas-balloon, at a height of 6500 ft., in 1802 citizen Ganerin leaped from a height of 1200 ft., with the aid of a parachute provided with a basket, in which he sat. At first the descent was very rapid; but as soon as the cloth spread, the velocity was checked and he reached the ground safely with more or less oscillations. Subsequently they were used as a safeguard, in case the balloon should be wrecked by fire or wind.

At a fair in Venice, in 1617, there was an exhibition a small parachute, which, although more crude in mechanism than Ganerin's, combined the same principles; and, 189 years before his feat at Paris, a mountebank of Siam frequently climbed a high bamboo-tree and leaped into space with two umbrella-like contrivances, which were so large he would sometimes drift far away, lighting on houses and in the river, though fortunately without disaster.

According to Greek mythology, in the fourth century B. C. a certain Archytas constructed a wooden pigeon, fitted with a spring, which, when wound up, would fly for some time. There is little doubt that such attempts were made; for in the 13th century, Blanchard, in his flying-machine, used many of the same principles. The most perfect device was that of Besnier, of Maine, who, in 1678, made various experiments, and reached that degree of perfection which enabled him to leap from the tops of high buildings, and, by vigorously working his wings, sail windward several hundred yards.

Solving the problem of aerial navigation had long been given up in despair when the use of balloons seemed to throw a new ray of light on the subject, and all efforts were exerted in the use of wings, paddles, sails, and rudders, but all to no avail. From Besnier's time to the present day, no improvements have been made in airships, although several fake machines have drawn much attention and money from the public.

Thus far, aéronautics has been useful in three ways; viz., the solution of many problems of science through the use of instruments at different elevations; while in warfare, captive balloons were used in taking observations in the enemies' camp; and, lastly, has benefited associations employing, and those employed in making balloon ascensions.

There are no better balloons to-day than in Montgolfier's time; and with practical inventors the idea of navigating the air by their use has been abandoned, and will remain so unless man can control the winds, as they are entirely at the mercy of the currents. Indeed, balloons are so delicate and sensitive, that, while floating horizontally through space, the slightest move shakes the whole structure. From this it is plainly seen, that, even if it were possible to guide them against the wind, the pressure

would be sufficient to collapse such a delicate affair. Undoubtedly, if this wonderful problem is ever solved it will be through means yet unknown, and electricity will be the motive power. Machines using large wings can never be practical; like balloons, the slightest sudden breeze would upset them.

Being an electrician, and desiring to become familiar with the currents, and determine to what extent electricity might be applied to airships, I received instructions from Baldwin Brothers, of Quincy, Ill., the inventors of the modern parachute, and made my first ascension in a hot-air balloon, with parachute descent, at Dowagiac, Mich. At 6 p. m. I seated myself in the trapeze, and, bidding my friends good-by, the balloon was released. For the first 300 ft. there was a most thrilling sensation of being lifted from the earth, and at no time did the ground appear to be dropping away, as described by many. The crowded park which I had just left now looked like a mass of moving black and white, and, after overlooking the country, viewing the many lakes and towns within a radius of 12 or 15 miles, it was indeed impossible to distinguish the business portions of our city from dwellings which were nearly a mile away. My first surprise was the clearness with which all earthly sounds could be heard—plainly hearing the cries of people one mile below to "cut her off;" but perceiving the country beyond to be an equally good landing-place, and that I was not yet descending in the least, which is discerned by the flutter of the parachute in a downward course, I prolonged those blissful moments.

Directly under me I could plainly see carriages, and their occupants, which looked less than half size, waving their hats and handkerchiefs. At this height the whole world looked like a mat of velvet, perfectly clean and smooth; hills, hollows, and shrubbery not being noticeable. The lakes had a silvery sparkle, and the river looked like a silver chain thrown carelessly along the surface, while patches of wood were black spots. Houses and barns were the same color, and all alike, and country roads gave the ground a checkerboard appearance. There was no feeling of fear of falling; nor did it seem possible that, if I should jump out, I should go down any more than up, but that I should remain perfectly still. The earth was like a painting, and no one would have any more fear of falling from a balloon than into a bird's-eye view of a city. Being so far away, and entirely disconnected from tangible earthly substances, one can not fully realize his position. Persons who would become dizzy in looking over the wall of high buildings would be at perfect ease away up in a balloon.

The balloon now beginning to descend a trifle, and not desiring to disappoint my friends who were running and driving their fastest to see the landing, I pulled the register-cord, which, operating the cut-off knife at the top of the parachute, launched me into space. To my utmost surprise there was no feeling of dropping, such as experienced in elevators, but I seemed to be sitting perfectly quiet in space, without support. After falling 125 feet, which was determined from an instantaneous photograph taken just as the parachute opened, the linen above my head snapped like a sheet in the wind, and spread to its full capacity of 22 feet in diameter.

As a demonstration of my coolness, to those below, I now hung by my legs head down; waved my arms, and shouted, until, finding myself swinging to and fro about 20 feet like a pendulum, I sat erect watching the movements of my life-protector. While I should be sick from swinging in a hammock, the violent mo-

tion of the parachute had no effect. When within about 1000 feet of the ground I hung by my hands, and soon landed on my feet $1\frac{1}{4}$ miles away, with the same force of jumping 6 or 8 feet. The whole voyage consumed five minutes, and the descent was made in one minute.

The sensations of ballooning are so delightful that nearly all who muster the courage to make the trial trip become aéronauts, whether adapted to the business or not, which is the cause of so many fatal accidents. Nearly all accidents in parachuting have been from a lack of mechanical ingenuity and coolness. Coolness, good judgment, and mechanical skill, are the indispensable qualities of a successful aéronaut.

W. T. HEDDON.

LADIES' CONVERSAZIONE.

A LETTER FROM MRS. HARRISON.

I left my southern home at St. Andrew's Bay, Fla., May 2. for my old home in Peoria, Ill., and took passage at 3 P. M. upon the "Gulf City," a steamer running between Apalachicola and Mobile. When the steamer loosened her moorings we went upon deck and watched our friends waving their handkerchiefs, and wishing us a pleasant journey, as they stood upon the fast-receding pier. All on board anticipated a pleasant trip across the Gulf of Mexico; but, "the best-laid plans of mice and men gang aft aglee." I stayed upon the deck, enjoying the pure, soft, sweet southern air, the lovely scenery of the shores, and watched the white boiling waters and the gambols of the porpoise. It was with regret that we took our departure from that lovely sheet of water known as St. Andrew's Bay, and passed out upon the Gulf of Mexico. The sailors talked of its being "lumpy," and, procuring my knitting, worked industriously, and, with teeth clenched, tried to still the fast-surfing billows within. I commanded the tempest within me to "be still; I shall not be sick; what if the steamer does roll?" The captain said, "Lady, if you desire to go below, let me know and I'll go with you." The strong will was conquered at last; the knitting laid aside, and I laid me down upon the deck, my head pillow'd upon a coil of rope.

As night drew near, a sailor came and escorted me to a state-room. The captain, in his rounds, looking after the comfort and safety of his passengers, inquired if I would have some tea. The idea! Tea! Holding on to prevent rolling from the berth! I commanded the surging billows within to "be still," and calmly waited events. At an upheaval, I leaped from the berth and sought a receptacle upon a stand, tied firmly to a friendly post, which I grasped. A comfortable arm-chair stood near, in which I sat, and I was soon traveling with lightning speed from one side of the vessel to the other, when I was rescued from my perilous condition by the strong arms of a Numidian Hercules, and conducted to my berth, into which I rolled, striking my head against the window-sill, raising a lump as large as an egg.

That great storm, which had originated in Texas, and was crossing the gulf on its way to the Atlantic coast, had crossed our track and handled us roughly. When we passed from the Gulf of Mexico into Pensacola Bay the steamer stopped rolling, and I looked from my state-room window out upon the dark waters, and enjoyed a magnificent view of the moonlight upon the water. When daylight dawned I dressed and went upon deck, and had a view of the light-house, navy-yard, and quarantine station,

where we moored. We received a clean bill of health, and were soon wending our way through the ships of all nations, to our pier.

As I wended my way through the streets of Pensacola my bee-keeping eye was on the alert to discover honey-secreting flowers. My sight was gladdened by the sight of a magnificent magnolia-tree. Words fail me to describe its grandeur. Towering aloft with spreading branches, covered with thick, large, well-varnished leaves, were pearly-white flowers, as large as oyster-bowls, with petals five inches in length. I was not able to learn whether the magnolia is rich in nectar. I saw a number of large umbrella-trees, with their small purplish flowers hanging in panicles. These trees are correctly named, as their long pointed leaves overlap each other, producing a perfect shade, and protection from rain.

OBSERVATIONS DURING TRAVEL.

I saw no bee-hives during the route north. In Alabama, dogwoods and honeysuckles were in bloom; and these and the red clay soil were indications of good fruit-land. During a day spent at Nashville, I visited the grounds of Vanderbilt University, comprising 76 acres, which were planted to trees of various kinds. I noticed one, at a distance, resembling a locust in full bloom; but on a nearer approach to it I discovered it was not the bloom, as it did not resemble the locust in having two wings, a banner, and a keel, but it hung in a loose panicle, and the branches had a drooping effect, like a weeping-willow. I am sure it must be a honey-tree, though I saw no bees at work upon the bloom. A resident told me he thought it was a mountain-beech, and quite rare in that locality. Another tree that interested me resembled a catalpa in leaf and spray, but the bloom was bell-shaped, in color purple, and the seed round like a nut, and not growing in a pod like the catalpa. If any of our readers who are acquainted with these trees will give us a description of them it will be gratefully received.

Peoria, Ill.

MRS. L. HARRISON.

HOW TO BE WELL.

SOMETHING ABOUT "BREAD AND MILK."

Mr. Root:—We have been much interested in your articles on diet. For several years we have been using entire-wheat flour for bread and gems. I have been expecting you to tell us how much better entire-wheat flour is than fine white flour. I know it is not much used in a good many places; and as you have not spoken of it I concluded to send you a few recipes for preparing it. Some of us who have weak stomachs find that eating graham flour for a length of time is apt to be hurtful. It will start the "beer-plant" very soon. The entire-wheat flour is as sweet as graham, and lacks the coarse taste.

We were especially pleased with what you said about milk. We have found a way of preparing it that makes it not only the best drink on earth, but a powerful stimulant. I will copy from the work of one of Chicago's best physicians, Dr. Alice Stockham; and I am sure that, if you will try it a few days, you will find it a wonderful help when you feel worn out and run down.

Add to new milk one-tenth water, and heat over a water bath to a temperature of 120°. Cheese-makers testify that the addition of water prevents rennet from coagulating the casein. In the stomach, also, warm water prevents the pepsin from curdling the milk. If it is as warm as the stomach, and does not

coagulate, it will be taken up by the absorbents, and conveyed directly to the blood without going through the process of digestion. I have known persons very near fainting, and persons very weak, to receive great benefit from using milk prepared as above. It must be taken as hot as possible; and while at first it does not taste as good as milk without water, in a short time one acquires a decided relish for it.

For gems of entire-wheat flour, take one pint of new milk, one pint of entire-wheat flour; stir together, and add one well-beaten egg. It can be baked in any kind of gem-pans. I use the deep iron ones, and have them very hot before filling; do not use any salt nor baking-powder. They are as light as sponge cake, and will not hurt the little folks. The entire-wheat flour makes very nice gems, made as you do graham, but I use three cups of flour, two cups of cold water, one-half cup of sweet milk, no salt, and use the small deep iron pans. Heat very hot on top of the stove; fill about half full, and have the oven very hot; bake ten minutes on the top grate, then thirty minutes on the bottom of the oven. They will not fall when cold if you get them just right, but are nice and light. It makes splendid raised bread also. The bread must not be kneaded more than can be helped to put the loaves in shape. I use half milk and half water, but raise the bread once and have the dough soft. I think one-third fine flour is better for the raised bread. I hope you will try the entire-wheat flour, and let us know whether you find it as good as every one does who has tried it in this part of the country.

I have written this to you because I know that fine flour is largely to blame for the poor health of our people, and because you can do and are doing much to help the readers of GLEANINGS, by your health-talks, to a better way of living.

The seeds we bought of you last fall were the best we ever planted. They all came up, every seed, I think. We have bought seed of a good many Eastern seedsmen, but never found any as good as yours proved to be.

MRS. JOHN COLLINS.

Elsinore, Cal., April 29.

[My good friend, we used entire-wheat flour for several years. It is mentioned in GLEANINGS, and at one time there was quite a trade in it. We had it shipped in ten-barrel lots from Chicago. The reason why we gave it up was because the proprietor sold out, and his successor finally gave up the business, if I remember correctly. Another thing, it did not keep like common flour. The latter is better when it is old; but for some reason which I can not understand, entire-wheat flour spoiled by being kept several months, and this gave it a backset. Now, if you can tell us of a miller, or anybody else, who will furnish us with entire-wheat flour, prepared in such a manner that it will not spoil, say under a year, we shall be under great obligations to you. Yes, there was another objection. A good many people who thought at first it was the nicest thing in the world, got tired of it after a time, and went back to common flour and graham.

Many thanks for your kind words; but I am afraid you give me more credit than I deserve in regard to seeds. A great part of the seeds we sell are bought of eastern dealers. However, we are careful of whom we buy; and about as soon as we make a purchase we plant some of the seed, either in the greenhouse or outdoors; and in this way we manage to have our seed generally reliable. I tell you, though, my good friend, it takes a deal of watching and care, and, a good many times, much exhortation to the clerks who have our seed depart-

ment in charge. There are more kinks, and chances of loss, and mistakes, in the seed-business, than one would believe who "hadn't been there."

I am glad to hear what you say about milk. The more experience I have with it, the more I do believe it is the one stimulus, if milk can be called a stimulus, prepared by God's own hand for his children. A few days ago, when it rained almost three days without stopping a "minute" (in spite of the Weather Bureau), some of our White Wonder chickens were out in the rye; and before we knew it they were stiff and cold. They were not quite dead, however, but I think they would have been had not the writer got around and prescribed warm milk in doses of a drop at a time, repeated often. They were so far gone that they did not seem to want it; but I insisted they must have it, whether or no. In an hour or two Mrs. Root reported that they were "able to sit up and talk." Of course, the talk was rather feeble, and Huber and Carrie were inclined to poke fun at mamma because she talked about chickens "sitting up." We took their inconsiderate mother and shut her up in the middle of the tool-house, where the ground was as dry as a chip, in spite of the pouring wetness outside. Here they weathered the storms as "chirpy" as could be. Say! can't some of you poultry-men give us a race of mother-hens that will not lead their chicks right off through the wet grass when it rains both day and night? I declare! I almost forgot that we were talking about milk as a stimulus; and here I am, away off in the chicken-business—almost as bad as the silly mother who led her chicks off through the wet rye.]

HEADS OF GRAIN FROM DIFFERENT FIELDS.

A KIND WORD FROM A. E. MANUM.

I am very much interested in your articles on gardening and fruit culture. They have been of much benefit to me. I should enjoy a visit to the Home of the Honey-bee, and may be I shall some of these fine days, and then call on friend Terry, and continue on west, and tickle that doctor's nose with some of his "Stray Straws."

We are having a very backward spring here. To-day my bees brought in the first pollen of the season, and hardly a showing at that. I hear that bees have wintered very poorly in this county. My own loss is greater than ever before, being 14 $\frac{3}{4}$ %, with about 1% more that are light, and may dwindle yet.

Bristol, Vt.

A. E. MANUM.

A SUGGESTION FOR PREVENTING AFTER-SWARMS.

Would it not be a safe and certain plan of preventing after-swarms to place the parent colony on top of the supers on the swarm, with a bee-escape between super and parent colony, so that every bee leaving it would be added to the swarm, removing parent colony on the 8th day?

Should the parent colony be left till a queen was hatched, would she be allowed to pass out through the colony below to mate—the queen-excluder being removed, of course?

Willmar, Minn.

HELGE NELSON.

[The plan might work very satisfactorily, but we would suggest destroying all cells, save a few choice ones, if the old queen is a good one, and letting said cells hatch in nuclei for the

purpose. We doubt whether a young queen allowed to hatch above would get through the hive safely with the swarm.]

PUNK AS A SMOKER FUEL.

I have tried nearly every thing in shape of a smoker fuel, but I have found nothing to equal what we call punk—a corky, fungus substance that grows around old stumps. When this is thoroughly dried, by using a little oil or shavings to start it you have a fuel that is lasting, and always smoking. It seems to make no difference whether your smoker has a draft or not; standing upside down or in any position it smokes just the same. I have frequently, when through work, emptied the contents of my smoker on the ground, and dumped a pail of water over it; and when happening to pass by it an hour later I have found it smoking as much as ever. The smoke is not as offensive as that from shavings or oily waste.

Somerville, N. Y.

L. B. THATCHER.

[We formerly used punk, and liked it very much; but shavings are just as good, more available, and cheaper. They are offensive to bees, and that is just what we want of them.]

GOVERNMENT DISTILLERIES, ETC.

Our house was burned with contents; all bee-literature is gone, with library. Cause, my husband reported an illicit distillery to the government officers. Tobacco and whisky go together here. Four-year-old children chew the one and drink the other. M. E. HAWKINS.

Horse Cove, N. C.

[My good friend, your report is a sad one; yet there are some encouraging glimpses about it after all. Even if our government does have some sort of share in *legal* distilleries, it is very severe on *illegal* ones; and if it is really true that you and your family have suffered for righteousness' sake, and that others are suffering in a similar way, it seems to me the government should take some means to recompense those who are bold enough to risk the consequences of exposing crime. I am sure the sympathies of our readers are with you in your attempts to bring the guilty to justice. May God help us if there are many localities like what the statement in your last sentence indicates. It indicates the tremendous need there is for more Sunday-schools, more Endeavor Societies, etc.]

SHALLOW VS. DEEP FRAMES FOR WINTERING.

I have to plead guilty to a loss of 16 out of 57, and possibly two or three to hear from later. I think, though, my own losses could have been entirely avoided had I known in advance the kind of winter we were to experience, and made sufficient preparation for it, as my losses were all in one division of the apiary. Perhaps, though, it will be a lesson well learned (though slightly expensive), and the experience derived prove of more practical value than the worth of the colonies lost. I am using the Adair frame at present, and find that, in comparison with the shallower Langstroth the past winter, it is much better, but still not as good as the much deeper (13-inch) box hive. Now, don't think that I am going to advocate the box hive. I am merely drawing comparisons on the wintering problem. The shallow Langstroth frame seems to give too small a space below the sealed honey for a successful outdoor wintering frame, as the bees in a protracted cold spell begin to crawl upward on the sealed honey; and a colony that comes to the top of the frames during a six-weeks' cold spell may as

well be charged to the profit-and-loss account then and there.

The theory of handling colonies as colonies, and that, if we use double-walled and chaff hives, the bees will do the rest, has got to go, and scientific bee-keeping has got to be practiced on scientific principles. Any one can winter well in the right kind of winter; but we need more light on the "bad-winter" subject; and, what is more, we need it badly. My losses have been heavier the past winter than in the five preceding winters put together.

Baptiststown, N. J. Apr. 10. Wm. W. CASE.

WHAT WE ARE AND ARE NOT SURE OF IN BEE CULTURE.

The bees nearly all froze last winter here. Some men lost all they had. The chaff hives and a good warm cover saved mine. The bees seem to do better by taking the gum cover off and spreading a coffee-sack on the frames. The moisture then comes up through, and the box does not get damp. I believe the honey business in our country is like the white man and the Indian with the turkey and the buzzard. If you have a large strong hive, they swarm; and if you have a small hive, you get no honey, every time. It is what we expect that makes life worth living. We expect honey this year. If we don't get it we will try it next year, and so on. The only thing I have been sure of is a bunged eye once in a while; but still I like the little sharp-footed fellows. I think I am like the Democrats with Cleveland—they like him for the enemies he has made. I am a young bee-keeper, and have told a little of my trials with bees, and now wait to hear from some of the cubs in the business, as we have been reading from the master hands so long.

Irwin, Pa., April 13. O. L. McGREW.

[That's so. If a colony is strong enough to work well in the sections it will swarm; if it is weak enough not to swarm, it won't get much honey. We therefore look forward with relief toward the non-swarming methods that have been proposed of late. See *Trade Notes* in the last two issues before this. Say, if you *really* don't want a "bunged eye," wear a good bee-veil; that is just what nearly all the "old cubs" do.]

NOT IN FAVOR OF THE OLD CHAFF HIVES.

My experience this very severe winter has rather cooled my faith in the virtues of chaff hives over single-walled hives. Last season Mrs. Brown hived a swarm above the frames in a chaff hive, and left them to go down on frames. This they concluded not to do, but began business in the upper story. The hive-cover was a gable-ended one, with two-inch side-walls between the roof and the hive. It did not fit down on the hive, and left space for bees to pass in and out, and was very airy all around.

When discovered, the bees had built comb on the roof, and so much of it, and had so much brood, that I concluded to let them have their own way. They certainly were about as much exposed as they could well be and not be entirely out of doors, and yet they came through winter in very fine condition. About the 10th of April I concluded I would transfer them to the frames. I found them very strong, with lots of sealed and unsealed brood.

The colony that sent out a swarm to-day was wintered in a single-walled hive. When I discovered the swarm it had settled on an elder-bush, and was a fine large one; but before I got ready to hive it, it left the bush and went back into the hive. After they got settled I concluded

to divide them and save the trouble of watching them so closely. I found the hive literally packed with bees.

With these two exceptions, all my bees were in chaff hives, and yet these two came through winter quite as strong, if not stronger, and as early, or earlier, to work at brood-rearing than any of the rest. None of my bees had any thing over frames except a single cover of grain-sacks. A part of them had sections on and a part none.

J. M. BROWN.

Mt. Sterling, Ky., May 6.

[Did you ever! Just as we are about concluding that the old chaff hives are the things to winter bees in, here comes one who is about losing faith in them. How we do differ in experiences!]

PUTTING ON SUPERS; WHEN NOT TO DO IT;
INSTRUCTIONS TO BEGINNERS.

Many, in seeking to hasten the storage of honey, retard it, and very much diminish the amount of surplus by too great haste. In this latitude (Central Illinois) the first of June is generally soon enough, and very often the 10th to the 15th is plenty early to place supers on the hives where the bees are in normal condition.

Some bee-keepers in this locality are in the habit of giving supers to some of their strongest colonies during apple-bloom, in the hope of obtaining a few pounds of the famous apple-blossom honey. About once in seven years they are rewarded (?) with a few pounds to the colony. But I venture the assertion that, for every pound of this much-prized nectar received, they have sacrificed some forty pounds of nice white-clover honey by the practice.

In the spring of 1889 the white clover began blooming here about the 26th of April, some ten days earlier than usual; and by the 10th of May the pastures and commons were white with it. As the weather was warm, my bees in fairly good condition, and some honey was coming in, I thought it was about time to begin putting on supers. Accordingly, on the 14th I "went at it" and placed supers on all the strong colonies, which numbered about two-thirds of the yard. In a day or two the weather turned cool, and kept so cool and cloudy for a week that the secretion of nectar was almost entirely suspended. As a consequence, many of those not strong enough to take supers when the first were given were among the strongest by the first week in June; and some that were not given supers till the 10th of June gave me more surplus than some that I considered among the strongest on the 14th of May. Since then I have been slow about putting on supers, preferring, if any colonies became crowded for room, to take away a portion of their brood and give it to others not so fortunate rather than give supers before the time of rapid storing had arrived.

W. J. CULLINAN.

Quincy, Ill.

NEW HOFFMAN FRAME; SPACE AT THE END OF THE FRAMES.

I like the new Hoffman frame without the V edge on the end-bars. The bees will fill that little place solid with propolis, with plain edge. There is no place for bee-glue when the frames are properly wedged.

When examining bees in the spring I change ends with each alternate frame. This spreads the brood, and puts part of their honey too near the entrance, so they will remove it, giving the queen still more room. When used this way the L. frame is as good a reversible frame as I want. With a frame as shallow as the L. the honey is always placed in the end furthest

away from the entrance, and *not* at the top. So reversible frames will not accomplish the desired result; but simply changing ends will.

I like Dr. Miller's idea of making the bottom of the frame shorter than the top. I would suggest, that the bottom-bar be made full length, with the ends trimmed to a point, and let the point, or end of the bottom-bar, project one-fourth inch. This will make it impossible to kill bees in removing frames, for the end of the frame can not touch the hive except where the point of the projecting end-bar touches. The hive could be made shorter, so as to make the smallest possible bee-space at the top end of the frame.

On page 920, Dec. 15, 1892, the Rambler describes the frame used by Mr. Hunt, having a bee-space around the end of the top-bar. In your footnote you say the objection to these would be, in hauling they would be liable to hop out of place. Instead of making them as Mr. Hunt does I would cut the rabbet $\frac{1}{8}$ wide, and drive double-pointed tacks in the lower end of end-bar, letting the tacks project one-fourth inch. This will keep the frame true and square, and no possible chance for the frame to hop out, or to be placed in the hive wrong. The only change to be made is in the width of the rabbet of the hive. Having tried frames with a space at the end of the top-bar, I can say that it is a great advantage to have them so.

W. C. GATHRIGHT.

Cameron, Texas, April 26.

[Of course, we will make changes in standard goods when so requested. If any one should prefer frames as above described, we can make them so; possibly, for the far South, such frames would be preferable.]

L. L. LANGSTROTH.

How pleasing to sight is that half-tone engraving,
With subject so sweet, and in perfect design,
Presented to all of the happy possessors
Of May the first GLEANINGS, page three thirty-nine!
The wide-spreading building, with bee-hives close by it,
Where frame hives by carloads they're making to sell;
And e'en father Langstroth, whose genius enabled
This once humble fact'ry's proportions to swell.

Inventive friend Langstroth,—
The bee-loving Langstroth,—
Dear old father Langstroth
We all love so well.

That hive in the foreground I hail as a treasure;
For oft, when I'm pensive, I in it may find
Such sweet recreation, such exquisite pleasure,
That comforting thoughts will return to my mind.
Those movable frames one can handle so nicely.—
Should we yet possess them? nobody can tell,
We're not for the advent of this benefactor,—
Immortal Langstroth we all love so well.—

Inventive friend Langstroth,—
The bee-loving Langstroth,—
Dear old father Langstroth
We all love so well.

How sweet seems that face, as in deep meditation
O'er all his achievement that meets there his gaze!
Or day and night study far back to young manhood,
And that dear companion he so loved to praise.
And while we are gazing, the thought we'll ne'er
meet him

Ere he shall behold her makes bitter tears swell;
But we've consolation—in heav'n we shall meet him—

The dear father Langstroth we all love so well.

Inventive friend Langstroth,—
The bee-loving Langstroth,—
The dear father Langstroth
We all love so well.

Carbondale, Kan., May 15,

J. H. MARKLEY.

NOTES OF TRAVEL.

ON THE WHEEL.

The sleep of a laboring man is sweet.—Ecc. 5:12.

I have been, for weeks back, proposing to take a trip off on my wheel as soon as the roads got so they could be trusted for two or three days, and also as soon as I could get business fixed up a little ahead. With the tremendous plant-trade we have had, and the backward spring, I have been having more on my hands, perhaps, than I have any business having. I was restless and nervous nights, and I did not get my accustomed sleep. Mrs. Root and the boys urged me to go off and recruit up, no matter what happened to business. One night I was so nervous that my wife asked me what the trouble was. I told her that I dreamed of being at a bee-convention, and was called upon to deliver an address upon beeswax. I forgot, in my sleep, that time is usually given to speakers to make some preparation for their talk, but it seemed that I was there before the audience, with no preparation whatever* so I gave a string of facts about beeswax. As I proceeded in my discourse I began to feel that it was too much dry details, and that my friends would expect A. I. Root to throw in a little pleasantry; and so I remarked, "Bee-keepers' wives sometimes call their husbands by the endearing term of 'Old Beeswax,' when they feel sorry for them;" but I was really too worn out and overworked to be funny, and so I woke up. Mrs. Root said I must start off for a vacation; so I fixed up affairs as well as I could, and started. Of course, we went on our wheels. I say we, for Ernest volunteered to go the first eight or ten miles with me, to "set the pace" and to see that my wheel was in trim for a long run. It is well he did, for every thing was tightened up so close before I started, that, when we got on to a bit of sandy road, the chain became rigid in passing the centers of the elliptical sprocket. While Ernest was giving a little more "slack," I took my first long draft of delicious spring water. He advised me not to drink much water or any thing else when on a long ride; but I told him I did not agree. A few miles more, and we reached one of my favorite haunts of last summer—a great soft-water spring that comes out of a cave in the rocks at the rate of almost a barrel a minute. As it sparkled over its gravelly bed, I drank again and again, and felt refreshed and invigorated. If there is a more delicious and refreshing drink on the face of the earth than the water of that Waltz spring, about two miles east of Sharon Center, in this county of Medina, I have never found it. The proprietor says that everybody can drink of these waters just as long and as much as he chooses, and no bad results ever follow. My experience agrees with this entirely. But I have always been there on a *wheel*, and have gone *away* on a wheel.

About ten o'clock I reached a celery farm about four miles east of Copley, Summit Co. The proprietor, a young man, a relative of mine, seemed very glad to see me. I found him pulling manure out of the back end of a wagon with a potato-hook, said manure being drawn into deep trenches made in the black muck. After this liberal dose of rich old compost, the muck is pulled back over the manure, and the celery-plants are placed on top. Oh how beautiful his plant-garden did look! Thousands upon thousands of dark-green plants rested against the black mucky background, and looked like so many bright-green stars on a jet-

black setting. Like myself, friend A. keeps lots of boys to pull out weeds, and do the transplanting. I should think he had a million beautiful plants; but none of his plants are for sale—they are simply for use on his own farm. After several years of experience his conclusion is about like my own—that nothing seems to suit celery as well as well-composted and well-rotted stable manure. This he buys in the city of Akron, and draws it on to his grounds all winter long, where it is piled up about four feet high, with the top of his heaps exactly level, and allowed to become well rotted before it is drawn out to the trenches. Like the rest of us, he has suffered from excessive rains, especially when it rained 60 hours without intermission during the middle of May.

"Why, friend A., isn't it possible for you to get a sufficient outlet, so your ditches would not fill clear up to the top, and drown out your stuff?"

He stopped a minute, and then said, "Listen!"

I listened, and there was a sort of chanking, or snorting, away over in the bushes in the swamp. Finally, said I, "What is that noise off in the woods?"

"Why, can't you tell by the sound?"

I thought there was something strangely familiar, and that I ought to "catch on;" but while memory was groping to fix on the point where I last heard such a sound as that, he replied, laughingly:

"Why, it is that very same steam-rooter that you pictured in GLEANINGS, and had so much to say about. It has finished its other job, and got over here, and is now tramping at a good pace over to my swamp, to let the water off."

Then we talked about the different kinds of celery. He raises only the White Plume and the Giant Pascal. He said that, if it had not been for the Pascal last season, his business would have been almost a failure. Then we talked about celery running up to seed. He says he invariably has trouble from plants started under glass; but when he begins to sow his seed in the open ground, there is but little if any further trouble. Some strains of seed shoot up more than others; but there are many things we do not quite understand, which seem to have an influence in the matter. You may remember I mentioned having a strain of White Plume that did not seem to run up to seed, even if the plants were started as early as the first of January. Well, a week ago I was proud to show some plants that were wintered over under glass. In fact, I was ready to swing my hat and tell you that I had made a success in wintering celery where it grew, on the plan of the new celery culture. The celery itself was on the wagon, and was beginning to sell pretty well. But we had four or five hot days, and I fear we did not give these plants quite enough water; for, almost with one accord, they started to send out seed-stalks. May be the bed got too dry; and my impression is, that, where strong roots are growing only seven inches apart, as in the new celery culture, there must be a tremendous amount of water or they will fail. The ground may be apparently wet all around them; but so many strong plants in so small a space literally lick the water up by the barrelfuls.

After giving my energetic and industrious young friend another exhortation to get him a *house* and *wife* before he went any further in building up a business I mounted my wheel once more. The road was beautiful, and I made the remaining three miles to the city of Akron in a very short time. Please remember I have not before failed to have a nap just before dinner, for many months. Here I was, doing heavy muscular work, without feeling a

* Mrs. Root suggests I have a *fashion* of getting myself into such predicaments.

bit of fatigue nor any inclination to sleep. Now, this matter of health is of such importance that I want permission to digress a little right here. On page 62, Jan. 15, I told something of my nervous troubles, and that, while working in the office, I find it necessary to visit the closet almost every hour. On this particular day I had felt no inconvenience in this direction at all, and had not thought of the closet since early in the morning. Had I been reading the letters that were at that very time piled up on my desk, I should have been thoroughly exhausted and used up, long before noon. As it was, when I came on to the beautiful streets of Akron I felt bright and fresh, except when I passed different buildings labeled "Milk Station No. 7," or No. 8, etc., and began to remember that a glass of milk would be exceedingly grateful just then. Then I remembered, too, of the years gone before, when, in going into a city, I felt a longing for a glass of beer. Oh! it was not so very many years ago, after all, since I felt that longing. When over-worked mentally I feel that old craving for beer; but when riding the wheel I would rather have a glass of milk than any other beverage in the world. Of course, I don't care for milk until it comes near dinner time. When there is a little craving for food, then the thirst begins to be for milk. As I rode along I mentally thanked God again and again that all the craving I now felt for any sort of stimulant was just for milk, the nourishment that comes from God's own hand to his children. Now, friends, there is a moral right here. We over-task ourselves mentally; perhaps we bring on ourselves care and worry, and with it comes a thirst for stimulants. With an abundance of the right kind of outdoor exercise, I feel certain the natural craving will be for the milk and not for the beer.

By the time I reached the City Restaurant, on North Howard St., I was quite ready for a good meal. A tasty card hung out on the street, with its inviting legend, "Dinner is now ready—only 25 cts." After giving my order, I noticed a pitcher of milk standing near; also a plate of nice-looking bread. In order to save time I took a slice of bread and a glass of milk. Oh! wasn't that bread and milk delicious! It seemed to me as if I never tasted any thing more refreshing. By the time the waiter got around with a large slice of fresh fish, just brown enough to be right, and vegetables to match, I had emptied the cream-pitcher and pretty nearly the bread-plate. It did not trouble me, however, very much, to manage also the good dinner he brought. I tried to persuade them at the desk that they should take *more* than 25 cts.; but they very pleasantly replied that 25 cts. was enough, and that, if I felt like it, I could tell my friends that they furnished *nice* dinners on very short notice, and at a very moderate price. I should have mentioned that the gentlemanly proprietor, Mr. Motz, is somewhere near the door about dinner-time; and his pleasant good nature, as he opens the door and bows customers in, has much to do with making the place attractive. How I do love to see a prompt, energetic business man look after the interests of his business! After I had finished my dinner, as there were no horses to hitch up or look after I got on my wheel and started on. There were several reasons for riding slowly. It was a very warm day, and my course east was up-hill; and after such a full dinner I thought I would ride leisurely for a mile or two. When I came to that part of the city which used to be called Middlebury I noticed another neat little card in front of a drugstore. It read, "Rest and refreshment, only 5 cents." As I was on an exploring

expedition, of course I stopped to inquire. A lot of very pretty seats were fixed in front of a soda-fountain; and the proprietor dispensed ice-cream soda to his guests. After I had had a glass of delicious soda and cream, flavored with Riverside oranges, it occurred to me that I could enjoy my trip more if I were to take a little nap before going further. A boarding-house keeper next door placed a dainty little room at my disposal, in a twinkling. As it was an upstair room, he told me I could open any or all of the windows, and have just as much breeze as I chose, and sleep just as long or short as I chose. When the door was closed I could not do otherwise than drop on my knees and thank God for such a very pleasant vacation day as I was having. I thanked him for this our native land, so full of industry and enterprise, and so full of courteous, kind, and obliging people. I thanked him that just now, in this 19th century, it is so easy to get away from home, and find home comforts at every turn; and I felt glad to think, too, that it was my privilege to reward all these good people who seemed so willing to wait on me and do their best, and, for a very small sum of money, to furnish me all the comforts of life, including this tidy little sleeping-room, with windows almost all around; and I thanked him, too, for the blessing of sleep. Truly the words of the little text I have chosen are true. In almost less than one minute, surroundings were forgotten. I slept a delicious dreamless sleep for perhaps three-fourths of an hour. When I awoke, even before I knew where I was or how I came there, I laughed almost aloud because I felt happy.

As I came out with my wheel, an electric car loaded with passengers buzzed past the door. Forty years ago this very vicinity was a wilderness. I used to travel through here with my father, driving a gentle horse that carried a small load of stoneware. My father had a larger load ahead. Could this indeed be Middlebury? What wondrous changes! Great tall chimneys rose on every hand. Volumes of black smoke poured forth. Factories and pottery-shops were on every hand. The gravelly hills had been leveled down, and multitudes of workmen were filling the factories, tunneling into the earth for coal, iron, clay, and other minerals. I started after the electric car, thinking I would follow the crowd of well-dressed people. It swung around a hill, and pretty soon it stopped before the gate of a beautiful park. Was it a fairy scene or reality? When I used to travel through here I had never noticed any pond; but over the gateway, in large letters, I read, "Blue Pond Park." I rode up to the gateway, and asked if I could go in with my wheel. "Why, most certainly," said the gate-keeper. And all he wanted was a nickel. Once inside I took my wheel again, and enjoyed myself going around on the beautiful track made of plank that entirely surrounds Blue Pond. Up among the trees was a refreshment-stand; and a little way off was a merry-go-round, and painted boats were out on the water for those who cared to fish. I left Blue Pond Park; but almost as soon as I reached the main street a great derrick, toward a hundred feet high, rose majestically against the blue sky; and then I remembered that I had heard they struck a great reservoir of oil, not long ago, in this very vicinity. Of course, I turned my wheel toward this well which, they said, was already down 3600 feet. Why shouldn't I look up all of these wonderful things while I was out on a vacation, with no more care or worry than the butterflies that flitted from flower to flower?

Continued in our next.

OURSELVES AND OUR NEIGHBORS.

Thou hast loved righteousness and hated iniquity.
—HEB. 1:9.

Mr. A. I. Root:—

I received your catalogue all right, and see that the good Lord has wonderfully blessed you. It is strange that he is so partial in dealing out his blessings. Don't you know that there are thousands of human beings that would gratefully accept such blessings if they were bestowed upon them in the way you claim they were bestowed upon you? For those same blessings there are thousands who would bow and cringe to his heart's content; yes, they would do as much of that as you ever have done or ever will do, and, like you, in God they *do* and *would* trust. But for *them*, too much of that kind of trust means "bust." It is very strange indeed that a business man like you can lay his prosperity to that mental disease commonly called the Christian religion. Will you be kind enough to satisfactorily inform me what is the matter with your God-loving and God-trusting brethren, that they are not prosperous as you are? Is your God a respecter of persons? The old scrap-book says he is not; but in the still older scrap-book they make him act like it, and acts speak louder than words, for they make him say, "Esau have I hated, and Jacob have I loved." What was there about Jacob that he loved? and what was there about Esau that he hated? If he made them both, who was to blame that Esau was not lovable? I should think the *maker* and not the *object* he made. Did he love Jacob because he was such a notorious liar and swindler, and such a good wrestler? I tell you, my friend Root, the blood-stained Christian religion is not the cause of your prosperity; but every breath you spend in sending flattery into empty space is a dead loss to you; and every effort that you have bestowed so far in defense of that old dogma has been a loss to your business. No one can tell how much more prosperous you would be if you were not cursed with that stupid mental disease that afflicts so many. I must say again, it was not blood-stained Christianity that made you honest; you deserve no more honor for being upright and honest than does the stupid, dishonest wretch deserve condemnation. A man must always act the way he is built. An independent act was never performed by any man. But I must close, and hope you will not get offended at this. I would rather have a chat with you face to face. "I was envious at the foolish when I saw the prosperity of the wicked. They are not in trouble as other men. Behold, these are the ungodly who prosper in the world; they increase in riches."—Ps. 73:3, 5, 12. According to the above, a man need not work for the church, or the kingdom of God, as you call it, in order to be prosperous. "Wherefore doth the way of the wicked prosper? Wherefore are all they happy that deal very treacherously?"—Jer. 12:1. How does this agree with your assertions? Please accept my best wishes.

Grant City, Mo. J. D. KAUFMAN.

My good friend K., if you are so embittered against the Christian religion that nothing can change your views, it would, of course, be a waste of time for me to attempt to reply; but on the other hand, if you are really seeking light and truth, I shall be very glad indeed to help you all I can. Your concluding words make me feel that the latter is at least partly true. The part of our catalogue to which you object, I have also objected to. I wrote it some years ago for our A B C book; and while it might do very well there, it seems to me hardly in place in a business catalogue. It looks too much like boasting of what I have done, or, as you put it, of how God has favored me above other people. The boys got hold of the concluding paragraph, and added it on to the history of the way our business was built up. If somebody, in looking through our catalogue, should become convinced by this little bit of history that godliness is profitable, it would be all right; I fear that some, however, have taken it as you do, although no one has ever written us except yourself, so far as I know. You say there are thousands who would "bow

and cringe" providing it would bring worldly prosperity, etc. Of course, you know, dear friend, that God never wants anybody to bow and cringe for the sake of getting favors; and I hope you know, too, that neither myself nor our boys had such a thought in mind when they planned our catalogue. Yes, I agree with you that *that* sort of trusting—that is, bowing and cringing—would, as you express it, "bust up any man," and it ought to do so. If, however, you substitute, in place of bowing and cringing, "loving righteousness and hating iniquity," then the whole thing assumes a different phase. You are right in saying there are thousands of people who will beg and do a great many things—in fact, they will work hard to get money without an equivalent—but they do not succeed. What is it that God wants us to do, and how shall we please him? Our text tells the story. To make it a little plainer, let me cite the story of Joseph, in olden time. He had the right kind of trust in God. It was not of the bowing and cringing sort, by any means. His faith in God was, however, of the kind that made him hopeful and trusting, even when his brethren put him into the pit and afterward sold him down into Egypt. He must have lost faith in his own brethren, without doubt; but he did not lose faith in God. He set about doing good at the very first opportunity. He did not lament nor grumble nor complain. He took up cheerfully with misfortunes that would have staggered you or me or anybody else. Then when a great temptation was thrown in his way, instead of doing as thousands would have done, and yielding to temptation and flattery, or to the "force of circumstances and surroundings," as some would put it, he said, "Behold, my master wotteth not what is with me in the house, and he hath committed all that he hath to my hand." He said this in explanation of the fact that his master had perfect trust and confidence in him. He had been exceedingly kind in promoting him, and in trusting him with important offices. He adds further: "There is none greater in this house than I; neither hath he kept back any thing from me but thee, because thou art his wife. How, then, can I do this great wickedness, and sin against God?" Joseph was too honorable and manly, even though he was a handsome and accomplished youth, to be unfaithful to the sacred trust put upon him. He could not stoop to wrong his master, who had trusted him so much and depended upon him so implicitly. But more than all this—yes, far more—he recognizes the terrible *sin* and *crime* he should be committing against the great God above. Joseph was one of the heroes of olden times, who would probably have suffered death rather than dishonor the God he revered and looked up to. There was nothing cringing about Joseph. He was a man—every inch of him—though he was a boy in years. God honored his integrity; his employer honored his integrity when it came out to the light of day, and the whole world honors his integrity, and has done so ever since. Prisons and foul slander could not crowd Joseph down nor hide him very long. His purity and his righteousness broke through circumstances, and he rose above all his enemies. You may say that God was partial to Joseph. If you mean by this that God is partial to those who *love righteousness and hate iniquity*, I agree; but if you mean that God gave Joseph a better chance than he did other people, I do not agree. God is just and fair, or he would not be God.

I have given you one illustration of temptation and sin in the human heart; but this is only one in a thousand. Lest you fall into the mistake of thinking that I claim to be more

pure in heart than most men, I want to tell you it is not so. My life is full of giving way to temptation, more or less. Scarcely an hour passes but that I yield to sin, either in thought or in deed; and when I yield, even in thought, trouble and disaster come. When I say, as Joseph did, "How, then, can I do this wickedness, and sin against God?" and at the same time turn resolutely away from sin, the reward is sure to come, sooner or later. God blesses those who are faithful—by no manner of means those who are *cringing*, but, on the contrary, those who are manly. God expects *men* to stand up in a *manly* way, and look him in the face. The man who obeys God's commands can do this without cringing. The cringing belongs to him who is so foolish as to think he can cheat the Almighty; or to him who says in his heart, "There is no God;" or, worse still, to the man who says, "God does not see and God does not know." The latter one is apt to reason, "If I conceal this thing so no *man* sees it—so nobody sees it—then I am safe from punishment." Of all the foolishness in this world, it seems to me the latter is the most so of all.

Your quotation, "Jacob have I loved, but Esau have I hated," was no partiality at all. God loved Jacob because Jacob recognized God, and was, to a certain extent, obedient to him. Esau probably rejected God and his commands. But the expression does not so much refer to the *persons* of the men as it does to the spiritual nature of Jacob's descendants as compared with the flesh-loving world around them. The Bible does not tell us every thing. A very few brief words sometimes stand in the place of what might be the history of nations. It has been urged that Jacob was dishonest and tricky. So he was at times and to a certain extent; but for all that he probably averaged better than almost any other individual in his day; in other words, there was better timber in him than in Esau. He had some regard for God and his holy commands; and we know, too, that he repented of his wickedness. You say God made them both. So he did; but, my dear friend, God made us all free agents. He made *one* part of us, and honored us above all animated nature by leaving it within *our* hands to make the other part. An old proverb says, "Every man is the architect of his own fortune." God gave us a human life to live. He placed us between duty and inclination. He said, "Choose ye this day whom ye will serve." Every man—in fact, every child—has to make his own choice, and he deliberately and with free agency chooses. The choice is between inclination and duty; and the whole world is choosing in this way every hour and every minute. Shall it be what I *want* or what I *ought* to do? If you choose what you would *rather* do, or let *inclination* decide, you can not be one of God's children, and he has no pleasure in you. If, however, in place of inclination you choose what you *ought* to do, and walk in the path of *duty*, then you can claim all the promises in God's holy word.

It would be out of place for me to speak of my own goodness; and, in fact, there is none to speak of; but I do know this, if I know any thing: The world is full of people who are continually in trouble because they can not and *will* not consent to let duty rule, instead of inclination. There are comparatively few who will choose death rather than dishonor. But those who do—those who say, like Joseph (excuse me if I use the expression again). "How, then, can I do this great wickedness, and sin against God?" will *surely* get their reward. The whole world is clamoring for men of principle, and men who can not be bought nor bribed. Witness the terrible state of the liquor-

traffic in our country, and realize, if you can, that the reason why this sin and crime can not be abated is because we can not find (or do not elect) men who are fearless and brave, and who are *proof* against the temptation that will surely be brought to bear upon the one who has authority. Over and over again I have had proof that God rewards even a *little* bit of faith and trust, and steady holding out against temptation. Yes, when we are faithful just a *little* he rewards us far *beyond* what we can expect. "He that is faithful in that which is least is also faithful in much." The "blood-stained Christian religion" is "blood-stained" because of sin. I presume your expression about sending flattery into space refers to prayer. Our proof-reader, who is taking down these notes, gave me some suggestions after reading your letter. Here is one of them:

"Christianity is accepted and taught in our colleges, where the highest order of intelligence and virtue prevails."

And, of course, our colleges teach and advise prayer to God. If the highest order of intelligence in the world accepts prayer as a real power in this world, what shall we say? Again, friend W. P. Root suggests the following:

"Mr. Kauffman's views would be cheered and accepted throughout all the haunts of vice in the world, but would be rejected by the virtuous as a class, even though the latter be not professing Christians."

My own experience corroborates this most emphatically. I do not know where you belong nor where you came from, friend K.; but I am sure that you have somehow got into bad company. There is one trouble with your reasoning—you make positive, flat assertions. Perhaps you mean to say, *in your opinion*; or, *as it looks to you*; but you must have forgotten to put it in. You say my Christianity has been a positive loss to my business. Well, dear friend, if it is indeed true that I have lost some business that I might have had, were it not for my faith that God sees and rewards and punishes, then I agree with you. I hope I speak truthfully when I say that I do not *want* any business or any thing else that God would be displeased to see me have. After dictating that last sentence I went over a brief mental review that almost frightens me. May God help me to live up to my own preaching.

Now, once more let me protest against your positive assertions. You say, "A man must always act the way he is *built*." Why, my dear friend, would you tell a lot of children, when they had just commenced going to school, that they must act out all the evil impulses that there are in them? The work of the teacher—the work of the father and mother—the work of the teachers in our Sunday-schools, and prayer-meetings, is to exhort all mankind *not* to act the way they are "built," or, if you choose, the way their selfish impulses would prompt them. A child gets mad, and is tempted to swear, as he has heard some bad men do. The kind Christian teacher says, "No, no, Johnny! Hold back the 'swear words,' look pleasant, and you will soon overcome them. Be a man. Do not be like the unreasoning brutes." A fellow in our county jail confessed to having ruined a little girl—or, at least, he *tried* to do so. I remonstrated. He said that I, perhaps, at my age, was not prepared to sympathize with young blood when they do things they ought not to. Said I, "My friend, suppose that little girl were *your own child*; then how should some other man have behaved, although temptation *were* thrown across his pathway?" He squirmed some under this hard question, for he is a married man and a father. Then he

answered me by using the very words you use. Said he, "Mr. Root, some of us are not built as you are." I replied, as I took him by the hand, "Why, God bless you. I was not built that way. With God's help I have been working day and night all these years to build *myself* differently." God gave me animal impulses, as he gave them to the rest of mankind; but when God did build us with our animal instincts (and they are all right and proper in their place), he at the same time, we are told, breathed into man the breath of life, and man became a living soul. Even though we are built with an unreasoning animal and physical nature, there is at the same time a God part in us. This God part says, plainer than words, "As ye would that men should do unto you, do ye even so unto them." Or, to paraphrase it a little, I would say, "As ye would that all men should treat your own daughter, even so treat ye the daughters of all men." Now, friend K., the man has never yet lived who treated other men's children in all respects as he would that other men should treat his children. With all our Christianity and all our faith in God, we are as yet too sinful to come up to this high standard. Only one, even Christ Jesus, has ever yet given us a pattern in this respect that is faultless. Our proof-reader has given me another thought—no dying Christian has ever yet rejected Christianity—at least, I never heard of such a one.

Our price list, a little unfortunately, seems to carry the idea that I have amassed much money because I have been exceedingly good. I did not mean to say any thing of that sort; but I did mean to say, and I want to keep saying it as long as I live. "Honesty is the best policy." I believe you have faith enough in me, friend K., to think I have tried to be honest and upright—at least. I judge so from your letter. Well, being a Christian is nothing more nor less than being honest and upright. I am sorry there has been, and perhaps is even now, a little of a sort of Christianity that is a good deal of profession and not very much practical work. At one time we had in our Medina County infirmary a boy who could spell every word that could be put out to him. He visited spelling-schools, and demonstrated his wonderful gift; but he could not write an intelligent letter and spell the words correctly. I have sometimes thought that there are Christians who pray, and perhaps exhort, and quote scripture texts, and yet when it comes to a business religion they are like the boy in the poor-house. Do not be prejudiced against square manly Christians because of this kind of people. Your text from the Psalms, about the prosperity of the wicked, is simply a warning. Satan tempts us to look about the world and say that people who do not control their evil impulses at all have a better and easier time than those who fear God and keep his commandments. Very likely they do not have as much fighting to do, and they do sometimes increase in riches. The highway robber who gets away with his booty gets money faster than the man who earns it by hard day's work. Would you therefore want to be a highway robber? Your last text, from Jeremiah, is in the same line. We must not be misled nor discouraged nor stumbled because bad people seem to get along easier than we do; and it is true now, I suppose, as it was in old Bible times, that now and then somebody who deals "very treacherously" seems to be happy. But I do not want any of that kind of happiness. Dear friend K., I wish I could take you to one of our Endeavor meetings, and let you hear the testimony of some of our many young Christians who are fighting against temptation. I think you would soon

conclude that people who are "not built that way" may be, by the grace of God, "built" over.

Another thought about this matter of "acting as one is built." Jesus said to Nicodemus, "Ye must be born again." I think that was his meaning. Why, if I should always act the way I am built, I fear I should be the worst man you ever knew or heard of. God forbid! Now, do not be in haste to lay this bad feeling to God's part. The building was done by myself (not by God) in earlier years, when I yielded to temptation. Yes, I once thought, or tried to persuade myself, and I fear others too, there was not any God whose all-seeing eye took in every wicked and wrongful act. The man who proposes to always act as he is built is hopeless; that is, if you mean by the expression "built" one who proposes to follow his low and selfish desires. Why, the whole Christian religion is based and founded on holding in subjection these inherited passions of ours. No man can think of being a Christian unless he exercises self-restraint and self-sacrifice for the good of others. And this is exactly what the Savior meant when he said, "If any man will come after me, let him deny himself, and take up his cross, and follow me."

HOW DID EVIL COME INTO THE WORLD?

Since the above was in type, the following letter, much in the same line, is at hand:

Dear Brother Root:—The excellent lecture you give under the title of Ourselves and our Neighbors, in GLEANINGS of June 1, is certainly one of great merit; put in practice it would increase the happiness of a majority of families. But I take exception to the use you make of one or two words; viz., *Satan* and *Devil*. I should like to know what you mean by those words. It seems that you hold that there is in the world a being invisible, independent, self-existent, ever present, and ever in opposition to all good. Where did this Devil come from? You know the Bible tells us that God made every thing that was made, and saw that it was good. Now, then, if that is true, God made your Satan, or Devil, and he was a good Devil. Milton's "Paradise Lost" inculcates the doctrine of a fallen angel, based upon a misunderstanding of the Scriptures, and has made more infidels than all the infidel writers put together, though it is prized as a Sunday-school book by some people. I should like to hear from you on this subject. R. H. RANDALL.

Big Rock, Ia.

You are right, friend R.; and I agree with you that God did make the Devil, or Satan. As you say, he was, when God made him, a good devil, or, rather, a good being, and not a devil at all. God made him good, and he made himself bad, just as you and I make ourselves bad if we choose. In other words, the Devil himself made himself just what he is. You may ask why God created us with a possibility of our being devils instead of angels. He made us intelligent, reasoning beings; and as such we have the power to choose. The more intelligence one has, the more wicked he can be if he chooses to be wicked. When our parents or teachers give us a high degree of education, they do it knowing that this education without godliness or principle will enable us to do more harm in the world than if we were left in ignorance. Satan was endowed with a very high degree of intelligence, judging from an acquaintance of many years; and I am sorry to say that he has been, most of the time, nearer than a next-door neighbor, especially since I have been trying to "love righteousness and hate iniquity." I should give him credit for intelligence beyond any thing human. His ways of working, his wiles, his schemes, and subtlety, are at times beyond any thing else in the universe.

I confess that I do not agree with many peo-

ple in their estimate of Milton's *Paradise Lost*; but I never knew that any body of Christian people considered its influence any thing at all like the influence of a Sunday-school book. I never found it in a Sunday-school library, and I should consider it out of place there; yet, my dear friend, does it not depend much upon the way in which we use the book? If we read it loving righteousness and hating iniquity, we may find many good lessons in it; if, however, it is iniquity that we are after, and not righteousness, then *Paradise Lost* would be a bad book. It had better be kept on an upper shelf, or not kept at all. All we know of Satan, or the prince of darkness, is what we derive from the Bible—that is, as to whether he has an existence as an invisible being, etc. It seems to me that the Bible plainly teaches this. If to others, however, it means only an evil impulse, I do not know that there can be any serious objection. The moral is just the same. We are to fight evil impulses and evil suggestions. We are to put down inclination, and let duty and wisdom take its place; or, as we have it in Holy Writ, "Resist the Devil, and he will flee from you."

HIGH-PRESSURE GARDENING.

BY A. I. ROOT.

GARDENING IN JUNE.

Dear me! what a topic to talk about! Every thing now is under high pressure. We have been selling the American Pearl onions for about a week. As this is the third season they have wintered successfully in our locality, we must call it a success. More than that, several have succeeded in wintering over the onions from seed sown in August. A neighbor sowed quite a lot of seed about the 15th of last August; and a few days ago he showed me the handsomest onion-plants I believe I ever saw. They were about the size of a slate-pencil, and had little bulbs about as large as beans. In fact, they were ahead of any thing I had raised with much labor and pains from seed sown in the greenhouse in January. There is this about it, however—he did not have plants ready to set out as early in the season as I did. The wintering seems to give the onion a pretty severe setback, and it is only until quite late in the spring that it recovers sufficiently so as to have vigor and vitality enough to stand transplanting. As this season, however, has been a remarkably late one, very likely he would usually have to transplant along in April and May instead of May and June, as they have been this year. The winter onions are all right before the American Pearl comes on the market; after the latter, however, are to be had, no one would take the Egyptian or winter onion hardly as a gift. These latter get to be tough and woody after they have sent up seed-stalks. We have just tried some of the American Pearl for cooking, and they make a very savory dish for one who likes cooked onions, even if the greater part of the stalk be used also. Of course, none of them have yet made a ripened bulb, although we have some onions as large as the top of a coffee-cup; and, by the way, this thick fleshy stalk is getting to be a serious trouble with onions in general, especially with the Prizetaker. With the great demand there is for the seed, I fear nobody has the courage to pick out only onions for seed having a very small top, or no top at all, when they are cured. There is an onion-farm near us where they raise 100,000 bushels of onions a year. Their foreman told me that a prominent seedsman had been

there trying to buy some seed. Their seed was all grown for their own use, from choice selected onions, out of their thousands of bushels. When he found he could not buy any seed of them at all, he told them that such seed as they had grown for their own use was worth \$5.00 a pound to anybody who grows onions. Well, some of us have been paying \$5.00 a pound for the seed, and have not got seed worth it even then. A year ago I selected from the Cleveland market some of the finest specimens of Spanish onions that could be had, without regard to price. They weighed one or two pounds, and they had nothing but a little dried-up stalk, scarcely visible. I succeeded in raising only about a quarter of a pound of seed from these great bulbs. We have now several thousand plants, but, like the onion-farm folks, they are not for sale. In fact, I am not sure yet that they are worth more than the onion-plants that we do sell; but I tell you, I am watching them with a great deal of anxiety. If they produce large onions (without being double, and without sending up seed-stalks), just like the big ones the seed came from, they would be worth to me \$10.00 a pound, and may be \$25.00. I wonder whether the experiment stations have done any thing in the way of raising Pedigree onion-seed—the model of what we want to grow is in our market at almost every season of the year. Where are they grown, and how do they do it? Will somebody tell us? They are good keepers, because we have had them for months during almost all kinds of weather. By the way, our American Pearls annoy us by sending up seed-stalks. Gregory and some other writers tell us that, if we break off the seed-stalks, they will make just as good onions. It is not true. If we break off the seed-stalk they will send up another, and they will get strong and tough. They are as contrary about it as a hen that wants to sit. Another trouble with many of our onions from choice seed, is, that they have become tinctured somewhat with the *multiplier* onions. If you won't let them send up seed-stalks they will go to doubling up, and pretty soon you will have two onions instead of one—sometimes three or four. The best seed that is offered for sale does this more or less. If my choice seed proves to be free from all these freaks and vagaries, won't it be an acquisition? It will, however, cost something to go on the market and buy onions that weigh a pound or more, pay two or three dollars a bushel, and then succeed in getting only one or two heads of seed from each great big onion. By the way, some good friend said in one of the agricultural papers, that he wished A. I. Root would give the world a strain of onions that would not make it necessary to go off in the woods to work all the rest of the afternoon after one has had them for dinner. Thank you for your confidence, good friend; but I believe I would work harder for a strain that would not send up seed-stalks, or commence doubling up when you simply wanted one nice smooth round bulb.

STRAWBERRIES.

We are getting nice large berries again from Marietta, O., 110 miles further south than where we live. But almost as soon as these berries came, our one row of Michell's Early began giving us nice fruit, well colored, good shape, and of excellent flavor. We have had Michell's Early on probation three years, and this is the first time it has not been injured more or less by frost. This year it blossomed fairly, and not a bit of frost has troubled us. Just as soon as we made our first picking I went at it and planted a row 40 rods long. Its yield of fruit is not to be compared with the Haverlands, of course; but

I think it will give us as many berries as the Gandy and some others regarded as a fair yield.

We have had fair celery on the market for a couple of weeks; but now, alas! it has gone up to seed, and we shall not have any more for a month or six weeks.

Lettuce has brought 30 cts. per lb., ever since the first of January, until the first week in June. The demand has been all this time beyond the supply. Just you see if I don't do better next time.

We have been having peas right along in small quantities, from that experiment bed in the greenhouse; and now we have peas almost ready to pick, from several rows sown in March. It does pay to plant peas during very unfavorable weather, early in the spring, even if you have to push them down into the mud. Sow them very close in the row, and they will generate heat and force, or something else, enough so they will start and grow, when it is difficult for any thing else to make any progress.

For the first time we are growing potatoes on clover sod, exactly after friend Terry's "prescription." The ground is the nicest to work of any thing I have ever seen on our stiff clay soil. The small-tooth cultivators and the Breed's weeder work to perfection. I think we are going to have some Terry potatoes this year.

The bugs have commenced work on our Hubbard squashes, cucumbers, and melons. We have covered the plants with tobacco, and the bugs have pretty nearly given up the job; but on some hills, where they had got a good start, it seems to be somewhat of a question. Occasionally we assist the tobacco, by pinching the bugs between the thumb and finger. No matter what you use, it seems to have a good effect to have the boss come around occasionally and give the bugs to understand that somebody who is interested in their destruction has an eye on the way things are going.

A month ago we had more tomato-plants than we supposed anybody would ever want; and as they were getting long-legged in the greenhouses and plant-beds, we planted them out, giving them more room, hoping somebody would appreciate our great big stout plants enough to pay double price (\$1.50 per 100) for them, and we have not been disappointed. By the first of June, after people had finally got their gardens plowed and ready, they began coming for those big tomato-plants, some of them with blossoms on; and after the community got educated to it, that it was better to pay a cent and a half apiece for great big nice plants, with strong bushy roots, we were sold out. People kept coming, and wanting more of those great big nice ones; and when we told them all we had left were those once transplanted, at 10 cts. a dozen, they went off and would not have any; and yet when we first started, people went away offended because we would not give them the best plants in the whole garden for less than 20 cts. a dozen. There is a good point right here. When you have something that is extra nice, even if folks do say at first they won't pay it, they are very likely to come back afterward, when they find they can not do any better. This makes me think of the man who thought I was wicked for charging so much for the American Pearl onions. Until this week we have been getting a nickel for a half-pound bunch, or, in other words, 10 cts. per lb. for onions, *top and all*. That would be about \$5.00 a bushel; and when you take into consideration the fact that the top weighs fully as much as the bulb itself, you see we got about *ten dollars* a bushel for these nice-looking onions. If some of our customers who are buying these

right along should see this, they might be offended. But look here, friends. Although I have raised them right along for three years, nobody else in our neighborhood has enterprise enough to go to work and undersell me. Another thing, you must have a good price for taking any crop out of the ground when it is only one-fourth grown. In other words, we shall, perhaps, get as much money by letting them grow into big onions for \$2.50 a bushel, as to pull them now and get \$10.00. If you are going to pull them for bunch onions, you want to put them in almost too thick for a regular crop, and have a great lot of them, then thin them out when they are as large as walnuts or hen's eggs.

CURRENT-WORMS, SQUASH-BUGS, POTATO-BEETLES, ETC.

This year we had a good deal of trouble in heading off the currant-worm with hellebore until we discovered that it had lost its virtue by being too old. We bought it at our drug-store, but noticed that, instead of being a soft powder, it was in hard lumps. After it is so old as to be in lumps, it is of little or no use. As no good hellebore was near when we found out what the trouble was, we used pyrethrum instead. Now, this costs only a little more per pound than hellebore—probably not any more if bought in quantities; and I feel certain that a little pyrethrum goes a good deal further than hellebore. At the first trial it completely banished every trace of the worm; and although ten days have passed since that one application, not another worm has been discovered. We pay at our drugstore 40 cents per lb. for hellebore, and we are now able to sell pyrethrum, right fresh from the California growers, at the same price, or 10 lbs. for \$3.25. As we buy tobacco dust by the ton, we can sell it in 100-lb. lots for \$1.75. If you take a whole case of 400 lbs., we can make the price \$1.50 per 100 lbs. As it is very light and dry, a pound makes quite a big lot. Where the bugs are very bad, we sometimes use $\frac{1}{4}$ lb. to a large hill of Hubbard squashes. We are handling squash-bugs with this tobacco dust as we did last year. And then you want to keep a little watch also. We like it better than the wire protectors, because we have nothing to pick up and get out of the way after the bugs are gone. We handle potato-beetles on the old plan, still adhered to by T. B. Terry. Just as soon as our potatoes were up, two boys went over the patch and found all together about a pint of bugs. Four days later they made another careful examination, and found, perhaps, one-fourth as many. A few days after that I looked over our fields and did not find a bug. The success of this kind of picking, like many other things, consists in taking a stitch in time. Get the mother-bugs just as soon as they move in, keep watching for them, and be ready to catch them when they first arrive, and you will easily keep the upper hand.

A WONDERFUL NEW PEACH.

At least, it was wonderful to us. The samples came by mail something like a year ago, and I made no mention of them then because I was watching for some later explanation. If it ever came it never reached my hands. The package came from somewhere in the South. The queer thing about the peaches was that they were flat like a tomato; in fact, one would hardly know what to call them, as the shape was so unusual, were it not for the beautiful peachy bloom with the attendant down, etc.; and when we came to sample them it seems to me they were the most luscious peaches I ever tasted. I can readily imagine such fruit should

sell for ten cents, or, say, three for a quarter. They were packed in some beautiful fine moss, in a pasteboard box, the package setting them off to excellent advantage. Will somebody tell us the name of this beautiful peach, and something about its cultivation? and will the donor please accept our thanks, even if we are so tardy in mentioning it?

STRAWBERRIES—LATER.

One shipment from Marietta failed. Michel's Early did not yield enough to supply the demand, and there was a "corner" in strawberries. It was Monday afternoon. They were all sold out in the lunch-room, and one of the clerks asked if I could not get a few more, even if they were not real ripe. The pickers had been all over the grounds in the forenoon, and had picked every thing they thought would do to sell. I said I would go and get some that were ripe on one side, and perhaps our customers would rather have these than none at all. As I rode along the path on my wheel I got glimpses of some bright-red berries through the dark-green foliage of some young plants that stood almost knee-high. Friend Terry once spoke about having strawberry-leaves large enough so a single one would cover the top of a teacup. Well, we could show some leaves this spring a good deal larger than that. I sprang from the wheel and found a berry on the very first plant in the row, that looked more like a peach than it did a strawberry. The plants were put out last fall, two feet apart, and they made but few runners; but each plant had in consequence got to be something immense. At the next plant I found another like a small peach. Pretty soon my hands were full. I called to a boy to bring me some boxes; and while I filled them I began to speculate as to what those plants were. Said I to myself, "Why, this must be the Edgar Queen; and if this is the way it behaves I will just go and plant acres of it." Then I felt pretty certain that we did not put any of the Edgar Queen on that part of the grounds. What could that wonderful plant be? It was not Parker Earle, because the latter is a late berry, and this particular one was not more than three or four days later than Michel's Early: it must be a wonderful acquisition. Twenty rods ahead was a stake with a label, but I could not read it so far off. I decided I would pick berries until I reached the stake; and as I filled box after box with the great beauties, my enthusiasm ran up to fever heat. Said I again, "Why, I never heard of any *early* strawberry that gives such wonderful great fruit as this, before. The Haverland, Jessie, and other early varieties have hardly commenced to ripen. What can it be?" When I reached the stake I said, "Why, you old stupid, you might have known that the rich dark-green color of these great broad leaves belongs to no other plant in the world than to the Bubach. Three cheers for the Bubach in its perfection!" How does it come that we have had Bubach all these years, and have not found out before what it can do? Well, I will tell you. Almost ever since we have had the Bubach the weather has been overwet. They rotted before they got ripe, or were too soft and watery in taste. Just now we are having a little bit of drouth, and the Bubach has for the first time come to the front. Another thing, these plants were growing on a strip of creek-bottom ground that has been dosed and dosed with manure until everybody said I could never get my money back. Let me tell you something. Strawberries were selling up town for 12 cts. a quart. Our own brought 15, because they were picked only as fast as customers

wanted them. I put these great big Bubachs in pint boxes, and marked them 10 cts. a box, and they were all gone in no time. Folks bought them as curiosities to show to their friends; and after they had taken a bite or two out of one of those great big berries they found the quality so delicious under the influence of this clear hot sun from 4 in the morning till 7 in the afternoon (am I putting in too much sunshine?) that they just came back and wanted more of that new kind of strawberry "as big as peaches;" and while I write this, we are picking and selling more like them at 10 cts. a pint. We are now going in with more enthusiasm than ever before to raise some Bubach plants that will astonish some of our friends who get them, as the *berries* astonished the Medina folks.

Moral—Old friends are sometimes equal to or better than new ones, if you wait long enough and give them a fair chance.

We copy the following from the *Practical Farmer*, of June 3:

The Freeman stands at the head in the matter of quality. As to size, it is owing to how you plant them. I have grown them altogether too large, by planting one eye every 32 inches each way, on rich soil. Seed heavy, and they will average small. One-eye pieces 12 inches by 32, last year, gave us a crop of fair size. But this year we have planted about 16x32, and hope we have them about right. The Freeman, and all other potatoes of the Snowflake class that I have tried, produce a good many small, unmerchantable tubers. This is the only fault I have found with it. With thin seeding, however, this trouble is greatly reduced. The complaint has been made that they grow too wide-spread in the hill. This is not the case with us. The Hoover digger gets them all; that is all I care. Some have spoken of them as very early. With me they are only medium early. The truth is good enough; no need of claiming more for them than they will back up. In shape, looks, and quality, they are perfect. The vigor of growth and productiveness with me for two years past has been such that I have planted nothing else this season, except a half-bushel of a new variety.

T. B. TERRY.



And the Lord said, Simon, Simon, behold, Satan hath desired to have you, that he may sift you as wheat.—LUKE 22:31.

SEE additional editorial on page 496.

MANY reports are now coming in, something to this effect: "Every thing seems to indicate big honey crop this summer."

The only queen-breeders in this country who has been holding on to the Punic bees, seems, from present indications, to be rather getting out of the business, and confining his attention to more desirable race of bees. 'Tis well.

ONE conspicuous feature of the *American Apiculturist* is the large amount of editorial work in it. Taking the editorials as a whole, they are good. It is true, they are a little tinctured in the interest of his queen trade and queen-trap; but we are all more or less culpable in a similar way.

THE *British Bee Journal* for May 25 is just at hand, and says the long drouth has at length come to an end, and that the parched ground in all parts has been refreshed with welcome show-

ers. It seems that, during the past month, the bees have been working in supers as they ordinarily do in June; and that, taking it all in all, there has been such early summer weather as has not prevailed for many a year. We learn, also, that the drouth and heat have been such that the cattle have been dying in some parts of Europe; and in other parts snow-storms have prevailed to such an extent as to cause immense damage; that plagues of locusts have infested Algeria, destroying the crops for miles around. The prospects, both for England and Ireland, have never been brighter. That our friends across the water may be blessed with a big crop of honey is the wish of all the cousins on this side of the big pond.

LOCUST-TREES, so far as we can judge from reports, and from what we notice of those in our own locality, have been doing unusually well this season. White clover is following up the locusts very closely. The prospects for a crop of honey were never better; and although the seasons have been discouraging of late, bee-keepers should not fail to see that their bees are in good order—strong, and ready for honey when it does come. Indeed, it is already on the way. The conditions of weather during the past few weeks have never been more favorable. It would be a sad comment on bee-keepers, if they should have an extraordinary season this year—if they were to let the nectar go to waste, simply for want of bees, or from a lack of enterprise to get the bees in order to secure it. We presume that ere this number is out, in many portions of the North the bees will be actively at work. Hold your tin pans up to catch the honey-shower when it comes; and look out for the basswood-blossoms, as mentioned by Doolittle in another column.

In the *Bee-keepers' Review*, page 186, we find the following, from the pen of E. E. Hasty, under the heading of a "Condensed View of Current Bee-writings:"

The world moves, GLEANINGS included. When Weed was at artificial-comb making it preserved a silence that could be cut into chunks with a knife. I think the *Review* was about the only journal that frankly told right out all it could get hold of to tell.

Elsewhere the editor says, editorially, that "GLEANINGS did eventually describe and notice the Weed artificial comb." When we first read these lines over we were at a loss to know what was meant by these quotations, as we were sure we had fully described the Weed artificial comb. No doubt our item on page 297 is referred to. As this form was going to press, we had time to look up only one reference. If Bro. Hasty will put on his specs, and turn to page 824 of GLEANINGS for 1889, he will find a full account of the early experiments in making artificial comb, and all about how it was made by Mr. Weed. In fact, the senior editor made a trip to the factory, in Detroit, Mich. Later on we made other allusions to and have experimented with it carefully in our apiary, but could not make the bees take it. As to why we should "preserve a silence that could be cut into chunks with a knife" on this question, even if it were true, is a little hard for us to understand. We have had neither desire nor object in suppressing information relative to such comb.

In this issue the Rambler gives a very interesting fact in regard to the white-sage blossoms, and how the bee manages to abstract the nectar that the blossom seems loath to give up. We have recorded in the A B C how Italians would break through the flower-stem to get the nec-

tar of the touch-me-not; but here is another way in which the bee seems to overcome any obstruction that nature may afford. The question may be asked, Why is it that the white sage is jealous of her treasures, as expressed by Rambler? Is it that she desires to give her treasured sweet only to that most intelligent of all insects, the bee, or that she would if she could hold them all to herself? Who of our readers can give us some light on this interesting question? Perhaps Prof. Cook can come to our rescue as he has done so many times before.

Oh, yes! the Rambler has directed us to another interesting fact; viz., that the sheep industry come into direct conflict with that of the bees. Sheep are close grazers, and it is no wonder that 5000 of them in a good bee country are unwelcome to the bee-keeper.

PERCENTAGE OF WINTER LOSSES THROUGHOUT THE UNITED STATES.

On page 404 of our issue for May 15 we called for reports as to how the bees had wintered. The first question was this: What percentage of your bees have wintered? and the second, What percentage of the bees in your locality, as nearly as you can estimate, have wintered? By summing up all the reports that have been received within the two weeks just past, we find the total aggregate is 77 per cent to Qu. 1; for No. 2, the per cent is only 57. This is much better than we expected it would be, as it seems the losses were not as heavy as the reports seemed to indicate early in the season. The greatest mortality seems to have been in New York, Indiana, Wisconsin, Illinois, Ohio, and Michigan, in the order named. Throughout the whole South there seems to have been, as usual, but little if any loss, and that only from starvation. The reports were not as numerous as we could have desired, yet they are sufficiently so to give us a very fair idea of the condition of bees throughout the country. Dear, dear, dear! the Home of the Honey-bees seems to be at the bottom of the whole ladder. One thing we have determined upon is this: Never unite again so late in the fall a lot of nuclei. We believe it was friend Alley (and perhaps he was not very far from right) who said it was about as cheap to throw the few bees into the grass. That seems cruel, but perhaps not more so than to let them pine away one by one with dysentery during the subsequent winter and spring. Queen-rearing can not be pursued profitably so late in the season in the North, as our experience showed.

HAS THE SELF-HIVER HAD ITS DAY?

The editors of the *Review* and the *Apiculturist* take the ground that the self-hiver has had its day. They may be right; but we are not quite willing yet to let go of something that worked practically in our apiary with much satisfaction last summer. Alley has never tried the Pratt self-hiver, if we are correct; and having tested his own quite thoroughly he has abandoned it. By the way, editor Alley rather scores Pratt for switching from one hiver to another. Folks who live in glass houses should not throw stones. If any one has switched from one hiver to another, it has been Mr. Alley.

If the non-swarming devices are *actually* non-swarming, they will be preferable to any automatic hiver ever made. But, right here, does not the chief objection urged against the Pratt hiver, to the effect that it requires the lifting of heavy supers, obtain equal force against the Langdon non-swarming system? Let us not urge that lifting is an insurmountable objection when there is necessarily a large amount of that sort of work in the apiary. We

do not believe that bee-keeping will ever be gotten off the plane where *all* lifting will be eliminated. The only way to get at any brood-nest for any purpose, having supers filled with honey on top, is to *lift* or slide the supers.

THE JUNIOR EDITOR ON ANOTHER BICYCLE-TOUR; HE DISCOVERS A BEE-MAN WHO
ALWAYS GETS THE HONEY.

Did you ever! For the past six or seven years there has lived one of the most progressive, intelligent, and *successful* bee-keepers in the United States, within four miles of the Home of the Honey-bees, and we didn't know it. We had noticed that large amounts of fine honey would come in from York, but thought nothing particular about it. Observing one day that the boss packer, Jake, was putting up a lot of goods for a York man, we became interested, and asked to see him when next he came. We finally had the pleasure of meeting him last week. He kindly invited us to come down and see his bees that day, which we did toward evening. We mounted our trusty steed, the wheel, and in a few minutes more beheld one of the neatest and prettiest apiaries in all the country.

A year or so ago, when we went by on the bicycle, on that 400-mile trip, to hunt up and gather all the pointers we could from prominent bee-keepers, we little realized, as we passed, that we were leaving behind us a bee-keeper who is not less progressive than those we intended to visit, hundreds of miles away. On the present occasion, as we were standing at the apiary we felt considerably chagrined to find that we had all this time never known more about this man and his success. We did not have to wait long before the owner, Mr. Vernon Burt, came out; and as we were short of bees at Medina, we desired to look over his, to see what we could buy. We remarked that we were using only Hoffman frames, and so we did not care for combs; all we desired was the bees and brood, and old crooked combs would answer our purpose, because the bees and brood would soon be transferred into frames of more modern construction. There were something over 100 colonies, and every one that we examined was fairly boiling over in strength. The bees were beautifully marked, and even at that time were strong enough to be in good working condition for honey. But, not satisfied with it, Mr. Burt was encouraging them all he possibly could to get a large force of bees of the right age to work on clover and basswood later on. He uses almost exclusively, chaff hives—our old two-story and the old Simplicity one-story. He has nearly as many of the latter as of the former; and, as between the two, the results in wintering compared as favorably in one as in the other. We asked him whether he discovered any slight difference in favor of the large two-story chaff hive.

Not a particle, and what was more, the one-story hives were very much handier. All things considered, he very much preferred them. During the past unusually severe winter, when everybody in our locality lost so heavily, he lost only two colonies out of 110 or 115—the exact number we do not now remember. Very cautiously we ventured the question:

"Did—did—did you use any sealed covers?"

He gave us a sly twinkle, and said, "Not a one. I was entirely satisfied with the old way—using a large absorbing cushion. I secured good results, and I did not know why I should not do so again." And with a smile he added: "I thought you would abandon that sealed cover later on."

We tried to tell him that the only way that we could know a thing is to test it practically.

"That is all right," said he; "but I prefer to let the other fellows do the testing."

We finally made him an offer on the bees for the number that we would take. He hesitated a little bit, and we noticed that he was disinclined to accept our offer. We finally said to him, "Your colonies are in No. 1 condition, beautifully marked, boiling over in strength, and on perfectly straight wired combs; and, to tell the truth, we would not sell them if we were in your place. But we could not make the price any more, as we could buy colonies on crooked combs that would answer our purpose just as well, for less money."

"Yes," said he, "my net profits on every one of my colonies have been more, and I think I prefer to take my chances on a honey crop."

It seems Mr. Burt has, during all these poor seasons, made his bees pay well; and while many of his neighbors have been dropping out he has been steadily and surely increasing his stock and getting his crops of honey. He has a small farm that he runs in connection with his bees; but the major part of his time is devoted to his pets, because he finds more money in them.

SHEEP AS LAWN-MOWERS IN THE APIARY.

As we were walking through the apiary we noticed the grass was kept down, perhaps not so nicely and evenly as a lawn mower would do it, but well enough to answer all practical requirements of the apiary.

"You do not dare to turn stock in here, do you?" said we.

"No," said he; "I let loose a flock of sheep."

"Only at night," we interposed.

"No," said he; "it makes but little difference whether it is night or day. The sheep are seldom molested, and they will eat the grass clear up to the entrances. And even if the bees do sting, they can not hurt them very much, on account of their great woolly coverings." The only time he had ever seen any commotion among the sheep was when one of them "got pecked in the nose." But that was rare.

That evening, when we got home and saw the long grass among our hives (it is all nicely mowed out now) we thought how nice it would be to have some sheep that would keep the grass down "automatically" and without the help of any extra man.

This method of keeping down the grass in the apiary by means of sheep is certainly a good one. We have seen the idea advanced a number of times before, but never had a chance to witness how nicely they do the work, and at practically no expense—nay, rather at a slight net profit, because the grass is converted into wool and mutton. Here is one case, at least, where sheep and bees go well together. But in California the thing seems to be reversed; or, rather, to put it more exactly, a few sheep in an apiary are an advantage; but when the bee-pasturage is encumbered with 5000 it is a little too much of a good thing. Our stenographer suggests that the difference is here: In California the sheep and bees are dependent on the *same plant* for a living; hence the sheep can very soon destroy all prospects of a honey crop; but here the sheep eat the grass and let the bees have the basswood and clover.

We have made arrangements with Mr. Burt to make for us a number of experiments, as he is so close at hand, to test among other things, the Pratt automatic hiver and the Langdon non-swearer. He is in position to test practically a number of things that we could not do here. Later on we will give you a picture of his handsome apiary, and, if possible, will try to make the camera show how nicely the sheep keep down the grass.